

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

SMARTFLASH LLC and)
SMARTFLASH TECHNOLOGIES) DOCKET NO. 6:13cv447
LIMITED)

-vs-

) Tyler, Texas
) 12:47 p.m.
APPLE INC.) February 18, 2015

TRANSCRIPT OF TRIAL
AFTERNOON SESSION
BEFORE THE HONORABLE RODNEY GILSTRAP,
UNITED STATES DISTRICT JUDGE

A P P E A R A N C E S

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24 Proceedings taken by Machine Stenotype; transcript was
25 produced by a Computer.

P R O C E E D I N G S

COURT SECURITY OFFICER: All rise.

THE COURT: Be seated, please.

Please bring in the jury, Ms. Mayes.

COURT SECURITY OFFICER: All rise for the jury.

(Jury in.)

THE COURT: Please be seated.

All right. Mr. Batchelder, you may continue with
your cross-examination.

MR. BATCHELDER: Thank you, Your Honor.

MAX MULLER, PLAINTIFFS' WITNESS, PREVIOUSLY SWORN

CROSS-EXAMINATION (CONTINUED)

BY MR. BATCHELDER:

Q. Mr. Muller, I was just asking you, when we broke, to
step through this graphic to walk us through some of Apple's
product milestones over the years.

A. Thank you. All right. So all right. So can everyone
see the red laser or thing? So in the -- in the mid-'70s was
when Apple was actually founded. It started out with the --
the Apple I and then the Apple II, followed by -- in 1984 by
the -- by the first Macintosh. This was the first real
personal computer that had a -- had a graphical user
interface, it had a mouse, and was really embraced by the --
by the education -- education world.

By the late '80s, we actually had developed kind of the

1 first real portable computer. This isn't a portable computer
2 that you think of in today's terms. This thing weighed about
3 25 pounds. It was literally the size of like a small
4 suitcase, but you could actually carry it around with you, as
5 opposed to, you know, plugging in monitors and keyboards.

6 We continued to kind of develop the -- the portable line
7 with our PowerBook and then our MacBook Pro in the mid-2000s.

8 By the -- by the end of the '90s, we came out with the
9 first iMac, which was the bondi blue kind of a -- somewhat
10 kind of candy-colored personal computer, had a -- kind of
11 a -- a pocket, and -- and that continued to basically develop
12 through the 2000s to eventually be the -- you know, the iMac
13 computer that you see today with -- with the stand.

14 In 2001, we came out the iPod, which was the first
15 portable music player that Apple released that was able to
16 hold thousands of songs right in your pocket.

17 And in 2007, we released the iPhone, and then followed
18 that up in 2010 with the -- with the iPad.

19 Q. Is it fair to say that Apple struggled for a time?

20 A. Yes. In the -- in the mid-'90s, Apple's business was --
21 was shrinking; and at that time the management had to make
22 some very tough, challenging decisions. And, you know, with
23 a lot of focus and investment, was able to pull through to
24 become the company it is today.

25 Q. Do you understand, sir, that the iPhone, the iPad, and

1 iPod Touch are being accused in this case?

2 A. Yes, sir, I do.

3 Q. Let's start with the iPhone. Can you summarize for the
4 jury what this device is?

5 A. Sure. You know, at a -- at a high level, the iPhone
6 is -- you know, had to be a great phone; but what we did is
7 we packed, you know, kind of a small computer into it and
8 allowed it to basically run applications. And, you know, we
9 developed this fantastic touchscreen for being able to
10 interact with -- with all the different functionality
11 within -- within the iPhone, as well as giving you full
12 access to the Internet, so like a web browser.

13 MR. BATCHELDER: Can we put up the graphic, please?

14 Q. (By Mr. Batchelder) If I could ask you, sir, to just
15 start -- well, first of all, what is this graphic?

16 A. This is -- this is showing just -- you know, just a
17 handful of -- of the -- you know, the features that the
18 iPhone has.

19 Q. So let's look on the bottom left. There's a little
20 green phone icon that says voice calls. Can you just go
21 clockwise from there, and let's -- let's do the first three,
22 and then I'll ask you a follow-up question.

23 A. Sure. So -- again, these -- this is -- this is just
24 going through, you know, some of the great features of the --
25 of the iPhone. So starting with the dialer application. You

1 know, we built a -- a great phone application that allows you
2 to make and receive phone calls, merge phone calls, be able
3 to, you know, get visual voice mail, be able to scrub through
4 your different voicemail, see where -- where these things
5 are.

6 Next up is mass storage, so we built in a lot of memory
7 into the phones so you can be able to store, you know, your
8 music, your videos, as well as applications. And, again, as
9 I mentioned, we wrapped the whole interface with, you know,
10 kind of a combination of hardware and software for the
11 touchscreen, for being able to kind of have -- have, you
12 know, different movements; and how you bond that together is
13 actually, you know, quite a bit of -- quite a bit of work to
14 get it -- to get it right.

15 Q. All right. The next three then?

16 A. Sure. So within -- within the phone we built in -- in
17 fantastic Bluetooth, as well. You know, Bluetooth, if you
18 have a car that, you know, allows you to basically take
19 hands-free phone calls or if you have a pair of headphones,
20 you want to be able to listen to music for -- without
21 basically connecting it in, that's -- that's all going
22 through Bluetooth. We built in fantastic networking, both
23 wireless networking that you basically get at like McDonald's
24 or Starbucks, as well as, you know, 3G and 4G, you know,
25 cellular networking to be able to get fast access to the

1 Internet on the go.

2 THE COURT: Mr. Muller, if you would slow down just
3 a little bit, please?

4 THE WITNESS: Oh, sorry, sir.

5 THE COURT: That's all right. Please continue.

6 A. In -- in addition, we built a messages application that
7 allows you to send and receive SMS text messages, as well as
8 multi-media messages, so if you would like to send, you know,
9 photos to your friends or your parents, that's basically
10 built in, as well, through the -- through the messaging
11 application.

12 Q. (By Mr. Batchelder) All right, sir. And then starting
13 with the photo library, those next three, again speaking
14 slowly?

15 A. Thank you. So with -- with a portable device, you're
16 out taking pictures of the world around you, and we built a
17 photo library that allows you to browse through all the
18 photos that you've taken, be able to crop photos, or be able
19 to, you know, add/delete photos. And, you know, if you're
20 like me, you've got a lot of photos of -- of your -- your
21 kids in here that you want to be able to show people on the
22 go, so we've made it very easy for being able to give slide
23 shows or to be able to, you know, kind of share the photos
24 that you've taken, with other people.

25 Next, we built both a front-facing camera, as well as a

1 rear-facing camera into the device. The front-facing camera
2 was optimized for being able to make kind of FaceTime video
3 calls where you can basically be seeing what -- you know, so
4 you can be able to be interacting with the screen at the same
5 time as somebody is seeing, so the focal link on that camera
6 is much shorter.

7 On the back, we built a much more powerful camera that
8 has a flash, as well as be able to perform both, you know,
9 slow-motion video and some of these other -- other aspects
10 of -- of -- of video recording.

11 And -- and because the phone you're out using it in the
12 world, we also built a great maps application into it, as
13 well, for being able to find local businesses around you, for
14 being able to get directions to, you know, your friend's
15 house, and that offers kind of turn-by-turn directions for --
16 as you're driving.

17 Q. All right. And then movies, App Store, video chat, what
18 are those?

19 A. So the movies application is built around being able to
20 experience video that you have on your device. So this would
21 be -- so some of the fun features we've built in is the
22 ability to select chapters, being able to turn on closed
23 captioning, or the different subtitles, if you're -- if
24 you -- you know, if it's in a different language.

25 The App Store is, you know, the -- the area that we

1 built to be able for you to discover other applications that
2 don't come with the phone. So if you'd like to go find games
3 or a productivity application, that allows you to find and
4 discover different apps that you might -- might want on
5 your -- on your phone, as well.

6 And as I mentioned before, the -- the video chat feature
7 is called FaceTime and allows you to make and receive video
8 calls with, you know, friends and family, for being able to
9 kind of see them actually and be able to interact with them
10 right from -- right from the phone.

11 Q. All right. And then the next three, sir, starting with
12 the iTunes icon?

13 A. So iTunes is -- is the -- our media store, so for being
14 able to kind of browse and discover new music that you might
15 want to discover or TV shows or videos, movies. And -- and
16 then the Internet browser is -- is referred to as the Safari
17 web browser.

18 And what was really, you know, revolutionary with the
19 original phone when it came out was we built it as a
20 full-featured web browser. Before that time, iPhone -- or,
21 you know, phones had very limited ability to be able to
22 browse the -- browse the web. It was a very slimmed down
23 experience. So within -- within the phone, it was the first
24 really full-featured web browser that was available on a --
25 on a mobile device.

1 THE COURT: Let me caution you, again, Mr. Muller.
2 It's -- it's critical that the jury be able to understand
3 your testimony. And if you would slow down a little bit, I
4 think it would be helpful --

5 THE WITNESS: Okay.

6 THE COURT: -- to make sure all of us in the
7 courtroom understand what you're saying, so please try to do
8 that.

9 THE WITNESS: Yes. Sorry, sir.

10 THE COURT: Okay.

11 THE WITNESS: Yes.

12 Q. (By Mr. Batchelder) All right. Then the -- the
13 processing unit on the bottom?

14 A. The multi-core central processor unit is, you know, the
15 core or the brains of -- of the iPhone. It is what actually
16 all of the executable code runs through. And we've packed
17 into the iPhone our own, you know, custom developed central
18 processing unit into -- into the phone which offers just
19 fantastic both graphics performance and -- and executable
20 performance.

21 So you get both very fast responsive displays, as well
22 as the ability to play very -- you know, interact with games
23 which have, you know, high-frame rate -- you know, very
24 quickly -- you know, lots of -- lots of animations. So the
25 combination of those two are critical to the -- you know, the

1 user being able to interact with -- interact with the device
2 and feel it to be very responsive.

3 Q. And the next one is Siri. What is that?

4 A. Well -- so Siri is a -- you know, it's a virtual
5 assistant. It's actually one of my favorite new features on
6 the phone, and it allows you to interact with the phone just
7 by talking to it.

8 So you could ask Siri, for instance, what the local
9 movies are playing at your local cinema, or ask it to get you
10 driving directions to the local Starbucks. And, you know --
11 or the standing, so if you want to find out, you know, the
12 score of a game, you could -- you can interact with all the
13 functionality within the phone, as well as be able to make a
14 request out to the -- to the Internet just through talking,
15 which is -- it's a fantastic new way to use all the fun
16 functionality of the phone.

17 Q. The USB charging?

18 A. So within -- within the phones, it's critical that they
19 have batteries that can last for the full day or even, you
20 know, multiple days.

21 And, you know, the charging that we built in, you know,
22 through the bottom port on the USB, you know, there was a lot
23 of work that went in to making sure that, you know, you
24 didn't have to have it plugged in for six hours before you'd
25 have a fully-charged phone.

1 So there's a lot of, you know, critical work that went
2 into creating a good USB charging experience for -- for the
3 phone with our -- our lightning connector.

4 Q. And the next one is email. What is that?

5 A. Within -- within the -- within the phone, as well, we
6 built a -- an email client that allows you to send and
7 receive email using any of your accounts out there, whether
8 it's an iCloud account or a Gmail account, any of those type
9 accounts you can basically access your email on. And it's
10 using that email client.

11 If you wanted to, for instance, share photos with
12 your -- with your friends or your grandparents, it's using --
13 you'd be using that email for being able to send and
14 receive -- send and receive those -- those photos.

15 Q. Okay. And iOS in the lower left-hand corner, what does
16 that refer to?

17 A. So iO -- iOS is referred to as Apple's mobile operating
18 system. You can think of it as -- as the -- the software
19 that sits between all of the hardware. You know, so all of
20 the -- you know, the central processing unit, the Flash
21 Storage, you know, the camera, all the -- all the hardware
22 pieces and the software.

23 So the application can sit up there. So the operating
24 system is that piece of software that sits right in between
25 those two functions.

1 Q. Coming back to the iTunes Store, has Apple added
2 features to that over the years?

3 A. Oh, yes, lots. Every -- every, you know -- every month
4 or so we're adding new features to the iTunes Store.

5 Q. Would you share a couple of examples, please?

6 A. Sure. You know, a few examples I can think of -- you
7 know, shortly after we launched the iTunes music store, we
8 added the ability for users to be able to review -- you know,
9 write up reviews of albums that they like or provide a star
10 rating. You know, another -- another fun feather that we
11 built was --

12 Q. Mr. Muller, I'm sorry to interrupt. Could you slow down
13 a bit?

14 A. Oh, sorry. Another fun feature that we built was called
15 Complete My Album, and what we did was we allowed a user, if
16 you saw an album that had, for instance, you know, call it 10
17 tracks, and it was available for 9.99, if you purchased one
18 of those tracks for 99 cents, we then built the ability --
19 and you liked that track, we allowed you to kind of complete
20 the album, and we would give you back the credit for the
21 amount of money that you spent.

22 So if it was a 9.99 album, you would only have to pay \$9
23 instead of 9.99. And that actually turned -- turned out to
24 be a really fantastic feature for music discovery where --
25 you know, for people.

1 Another feature would be Genius, and we -- you know, we
2 called it Genius. What it was is a very complex set of
3 algorithms that would run on your music library, and it would
4 analyze to find out the artists that you like. You know,
5 find the tracks that you played often and -- and then we
6 would go into the store and try to find other -- other music
7 by maybe similar artists or an artist that you'd never heard
8 of to be able to recommend -- you know, if you liked -- if
9 you liked, you know, these particular artists, then this is
10 actually an artist that you might like. So that was a
11 really -- that was a really fun feature to build and to see
12 used by our customers.

13 Q. Now, have the iTunes Store and the App Store within it,
14 have they been successful?

15 A. Yes, they've been very being successful.

16 Q. And how do you explain that success, sir?

17 A. Well, I would -- I would attribute the iTunes Store and
18 App Store's success to two primary reasons.

19 The first is, you know, at Apple, one of the things that
20 we obsess about and spend so much of our time doing is
21 looking at how users interact with applications or interact
22 with devices.

23 And creating something that is simple and easy is
24 actually incredibly difficult. I mean, you have to go
25 through design iteration after design iteration.

1 And, you know, we know we get it right when we can come
2 out with something and -- yeah, the reaction is a little bit
3 like, yes, of course, that's how it should work. Well, but
4 if it hasn't worked that way before, you know, it's -- it's
5 hard to see that.

6 So within the iTunes Store and the App Store, we've
7 constantly gone through the effort of basically looking at
8 how people interact, how people want to find content, how
9 people want to experience content, and going through that
10 kind of continual refinement.

11 And the second reason I would assert is, even if you
12 have a great store that people -- or a great interface and a
13 great way to interact, if you don't have the content, you're
14 not going to go back.

15 If every time you went to the iTunes Store and searched,
16 you were only able to find half of the content that you were
17 looking for, it's like you wouldn't go back.

18 So over the years, we have put in an inordinate amount
19 of effort, you know, to make sure we're getting all the great
20 music content, that we're getting all the movies, that we're
21 getting all the TV shows.

22 And when we came out of the App Store, you know, a lot
23 of the work was then going and working with all the
24 developers to make sure that, you know, the applications and
25 the games that people wanted to find were available.

1 So, you know, having -- you know, focusing in on having
2 a really simple and easy and intuitive interface and then
3 combine that in with having all the great content that people
4 want, that's what I would basically attribute, you know, the
5 primary success to.

6 Q. Thank you, sir.

7 Now, before the iTunes Store and its App Store were
8 around, were there other electronic stores that sold content
9 like music and movies?

10 A. Yes, sir. Yes, there were.

11 Q. And how did they fare?

12 A. None of them fared very well.

13 Q. So given that so many others had tried and failed, how
14 do you explain how Apple was able to succeed?

15 A. Well, if you -- if you look at the -- if you look at a
16 lot of the previous attempts, you know, a lot of it goes back
17 to having the simple and easy and intuitive.

18 Many of the music stores that were selling digital
19 content, you know -- you know, things like Rhapsody or
20 PressPlay or -- Microsoft Play is for sure -- their -- their
21 stores had a very inconsistent experience where some tracks
22 you could rent; some tracks you could only make ringtones out
23 of; and it was a very convoluted experience. It was
24 confusing. And they didn't have the content.

25 And with those two -- you know, kind of with those two

1 parts, most of them did not -- you know, did not succeed.

2 Q. Have you now described a fairly complete list of the
3 iPhone's features?

4 A. No, sir, not even close. These are -- you know, the
5 iPhone has thousands of individual features in it.

6 Q. The iOS feature on the bottom left, how does that fit
7 into the features that we've been talking about?

8 A. I mean, iOS is, you know, one of those, you know,
9 thousands of features that we have available.

10 Q. Do Apple software engineers create documents reflecting
11 how Apple has enhanced the features of iOS over time?

12 A. Yes, sir, we do.

13 MR. BATCHELDER: All right. Can we put up
14 Defendant's Exhibit 59, please?

15 Q. (By Mr. Batchelder) And it should be in your notebook,
16 sir. And it's titled, What's New in iOS, at the top.

17 A. Yes, I see that.

18 Q. And is this such a document?

19 A. Yes, it is. This is the developer guide for what's new
20 in iOS.

21 Q. All right. And how long is this document, sir?

22 A. 89 pages.

23 Q. 89 pages to describe enhancements made to this one
24 software feature?

25 A. Yes, sir, that's correct.

1 Q. Now, are you saying that Apple invented the idea of an
2 operating system?

3 A. No, sir, I'm not. Apple did not invent the mobile
4 operating system, but what we did invent was iOS, which is
5 our mobile operating system. And, you know, we believe it's
6 the best mobile operating system on the planet.

7 Q. What about Apple's hardware on the iPhone? How complex
8 is the hardware?

9 A. It's extremely complex. We have a very large hardware
10 engineering team, and it -- there's thousands of individual
11 hardware components that are packed into each -- each one of
12 the devices that we make.

13 Q. Okay. And what do you mean by hardware?

14 A. I would characterize hardware as the components, like
15 the touchscreen or the camera or, you know, the battery.
16 Either -- the hardware components that fit into -- into the
17 phone.

18 Q. And did Apple invent the first camera or even mobile
19 camera?

20 A. No, sir. We -- you know, Apple did not invent the
21 camera. But what we -- what we did invent is our camera,
22 which there's a whole lot of software that goes into being
23 able to process, you know, the images that are coming off
24 of -- off of the sensors.

25 And we've spent a lot of time and energy over the years

1 refining and creating a fantastic, great mobile -- mobile
2 camera.

3 Q. And what about the touchscreen and display? Are those
4 things that Apple invented, those ideas for use in mobile
5 phones?

6 A. No, sir. We -- we did not invent the touchscreen, but
7 what we did invent, you know, is our touchscreen, which is
8 taking the hardware components and marrying it in with the
9 software to be able to, you know, provide the responses and,
10 you know, be able to shift around the display as things are
11 moving over -- over it or being able to provide, you know,
12 the multi-touch gestures.

13 And, you know, we think it's just a fantastic way of
14 experiencing the mobile device.

15 Q. All right, sir. I'm now holding up the iPod Touch.

16 Would you, in a more brief fashion, please, summarize
17 what the iPod Touch is?

18 A. Sure. The -- the iPod Touch we released approximately
19 six months after the iPhone. It was geared towards a younger
20 audience that didn't need to have the cellular capabilities
21 to be able to make a phone call, but they still wanted to
22 have access to be able to play, you know -- you know, surf
23 the web or able to play games or these type of -- of
24 functions.

25 The hardware components are similar, and it still runs

1 the same iOS operating system, but, you know, it doesn't have
2 a GPS chip for being able to do, you know, driving directions
3 or some of those other aspects.

4 Q. Thank you, sir.

5 I'm now holding up the iPad. And, again, would you
6 summarize for the jury what the iPad is and does?

7 A. Yes. The -- the iPad -- after we originally came out
8 with the phone, we began working on the larger version,
9 the -- the iPad.

10 And it has the same fantastic touchscreen for being able
11 to interact with the tablet. It runs the same operating
12 system as iOS. And it has a camera for being able to perform
13 FaceTime calls. You know, the real trick was being able to
14 provide it all on a much larger display, display size
15 setting.

16 Q. Well, given that the iPhone was already around, was it
17 an easy project or a hard one to then develop the iPad?

18 A. Oh, it was -- it was a -- it was a lot of work, because
19 we couldn't just take the iPhone and stretch it out to
20 essentially make it a larger -- a larger form factor, as many
21 of the pieces that -- or how you interact with a small device
22 that you're holding in one hand is not how you would interact
23 with a larger device that you have two hands for.

24 So we had to go back and look at every single
25 application that comes with the iPad and rethink how someone

1 would want to interact with that -- with that application,
2 how we should lay out the buttons, what additional
3 functionality that we should add that we could then take
4 advantage of with the larger screen, you know.

5 And so this took years of work until we had a product
6 that we really felt was easy to use and intuitive for the
7 larger -- the larger screen.

8 Q. Has Apple been awarded any United States patents for its
9 inventions?

10 A. Yes. Yes, sir, we have.

11 Q. And are you a named inventor on any Apple patents?

12 A. Yes. I'm named on just over 10 -- 10 patents for my
13 work in the iTunes Store.

14 Q. What about the group of engineers who worked on the
15 iTunes Store, including its App Store? How many patents have
16 been issued to them?

17 A. For the engineers working on the iTunes Store, just over
18 300 patents have been issued to those engineers; and for
19 patents referencing iTunes, it's over 500 patents.

20 Q. For the accused products that we've discussed, has Apple
21 received industry awards for its innovations?

22 A. Yes, sir, we have.

23 Q. Let's look at Defendant's Exhibit 100. It should be in
24 your booklet.

25 Do you recognize this?

1 A. Yes, I do. This is Time's Invention of the Year for
2 2003, which names the iTunes Music Store as that invention.

3 Q. Were you proud of this one?

4 A. I was very proud of this award. Actually, I have a copy
5 of this particular Time Magazine hanging on my office --
6 office wall because I spent a better part of a year, you
7 know, with the team working nights and weekends to
8 essentially come out with this -- this -- this product.

9 So getting it recognized as the Invention of the Year
10 was --

11 Q. Can we turn to that -- I'm sorry, sir. I didn't mean to
12 interrupt you.

13 A. That's all right.

14 Q. Can we turn to the second paragraph? And toward the
15 bottom, third line up, it says: In a word, simplicity, the
16 transparent ease of use, that is the hallmark of Apple's
17 entire product line, including the music store.

18 Do you see that?

19 A. Yes, I do.

20 Q. Do those words have meaning to you in your work?

21 A. They absolutely do. And it goes back to what I was
22 saying, creating a music store that was easy and something
23 that, you know, my grandmother could sit down and be able to
24 buy music for, you know, it was a lot of work to go through
25 and create an easy-to-use store.

1 And so when it comes out and looks easy, there's tons
2 and tons of work that goes on in the back end to make that
3 appear easy.

4 MR. BATCHELDER: Will you turn to the second page,
5 please, the full -- first full paragraph and blow that up.

6 Q. (By Mr. Batchelder) It begins: Long before the music
7 store came on the scene, frantic record industry executives
8 had been searching for some way to combat their nemesis,
9 Napster, the original file-sharing service, but to no avail.
10 Their first online ventures, Music.net and PressPlay were
11 disasters.

12 Do you see that?

13 A. Yes, I do.

14 Q. Had you heard of Music.net and PressPlay?

15 A. Yes, I had.

16 Q. And what were they?

17 A. Music.net and PressPlay were other, you know, online
18 music stores that were available, you know, at the time.

19 Q. And how did they fair?

20 A. They -- they both went out of business.

21 Q. And how did iTunes Music Store succeed when they didn't?

22 A. Both Music.net and PressPlay had some very, very
23 restrictive interfaces and very convoluted -- yeah, the
24 interface was a bit of a mess. It was hard to figure out how
25 to actually find and discover content, and -- you know.

1 But the iTunes Store, you know, we made -- we made
2 discovery very easy. We made -- made purchasing content
3 very -- very intuitive as well.

4 MR. BATCHELDER: Could we see Defendant's Exhibit
5 93, please?

6 Q. (By Mr. Batchelder) Do you recognize this one?

7 A. Yes. This is Time 2007 Invention of the Year, which
8 names the -- the Apple iPhone as that invention.

9 Q. Were you proud of this one?

10 A. Oh, absolutely, absolutely.

11 Q. First two sentences: The iPhone changed the way we
12 think about how mobile media devices should look, feel, and
13 perform. The design -- well, let's just -- okay. The design
14 is exceptional inside and out.

15 Do you see that?

16 A. Yes, sir.

17 Q. How did the iPhone change the way mobile media devices
18 should look, feel, and perform?

19 A. If -- if you look at mobile phones before the iPhone,
20 many of them were the Motorola flip phone or, you know,
21 the -- you know, the Nokia phones that just had, you know,
22 nine dialer buttons on them.

23 And the -- you know, with -- the iPhone was the first
24 one where we sat down to create a really large -- large
25 display, you know, screen. It was the first one to really,

1 you know, integrate in a touchscreen that allowed you to kind
2 of access all the different functionality.

3 And it really -- it changed the whole landscape of the
4 mobile device -- mobile device market. And -- and after the
5 iPhone, if you look at what phones look like today, you know,
6 they're following, you know, Apple's lead in creating this,
7 you know -- and -- yeah, and how they interact.

8 Q. That reference in the next sentence to the design being
9 exceptional inside and out, is design important to Apple?

10 A. Oh, absolutely. Design is -- is one of our -- our
11 hallmarks. That's one of the reasons we only make a few -- a
12 few products. We really focus in on those few products to do
13 some exceptionally well.

14 MR. BATCHELDER: Let's look at Defendant's Exhibit
15 67.

16 Q. (By Mr. Batchelder) Do you recognize this?

17 A. Yes. This is from 2008, a Guardian article declaring
18 that Apple had won two of the highly-coveted Black Pencil
19 D&AD awards.

20 Q. Is this an easy award to receive?

21 A. No. The Black Pencil award is incredibly difficult
22 to -- to be awarded. What -- what they do is they set an
23 exceptionally high bar for design that is truly exceptional.

24 And they weigh everything that's come in throughout the
25 year, and if nothing meets this exceptionally high bar that

1 they have established, then they just won't give out any
2 awards that year.

3 And -- and there have been years where no awards were
4 given out for like six years in a row. So for Apple to win
5 two awards was a huge, huge accomplishment and meant a whole
6 lot to Johnny and his team.

7 Q. Can we see -- Mr. Muller, can -- what is the -- the last
8 name of that person that you just mentioned?

9 A. Oh, sorry. Johnny Ive is the -- is the lead designer at
10 Apple, and he heads up our -- our industrial design group.

11 Q. Thank you. We're going to use last names for everybody.

12 A. Sorry. Mr. Ive.

13 MR. BATCHELDER: Let's look at Defendant's Exhibit
14 70, please.

15 Q. (By Mr. Batchelder) What is this one?

16 A. This is the J.D. Power and Associates that named Apple
17 in 2009 as the highest ranking customer satisfaction among
18 smartphone manufacturers.

19 Q. And does Apple care about what J.D. Power says?

20 A. Oh, absolutely. The -- J.D. Power and Associates, they
21 are in the -- you know, they actually compile what customers
22 actually think.

23 So instead of it being a trade group giving the award,
24 this is them actually out surveying and talking to our
25 customers. And so it's looking at actually how our customers

1 value us.

2 So the J.D. Power and Associates means quite a bit to
3 Apple. We value their -- we value them quite a bit.

4 MR. BATCHELDER: Could we turn to Page 3, please?

5 Q. (By Mr. Batchelder) In the left-hand side of that table,
6 it names some companies. Who are they? What do they have to
7 do with all this?

8 A. So the other companies that are named here are LG,
9 Samsung, HTC, RIM, Blackberry, Palm, and Motorola. These
10 are -- in 2009, were some of our competitors in the
11 smartphone -- smartphone area.

12 MR. BATCHELDER: All right. Next let's look at
13 Defendant's Exhibit 101.

14 Go to the top, please.

15 Q. (By Mr. Batchelder) Do you recognize this document?

16 A. Yes. This is Time's 2010 issue of the Top 50 Best
17 Inventions of 2010, which names the iPad as one of those
18 inventions.

19 Q. All right.

20 MR. BATCHELDER: Next, Defendant's Exhibit 65.

21 Q. (By Mr. Batchelder) Do you recognize this one?

22 A. Yes, sir, I do.

23 Q. And what is this?

24 A. This is the Press Association, which names Apple's iPad
25 as the Best Gadget for 2010.

1 Q. All right. And in the second paragraph, it references
2 the iPad beating the Amazon Kindle. Was there much
3 competition in the tablet market when Apple won this award?

4 A. Oh, yes. In -- by 2010, there were a number of Android
5 tablets out there, and -- and the tablet space was considered
6 to be the next big kind of mobile battleground, if you will.

7 So for us to come out with our tablet in the middle and
8 to win the Best Gadget Award was -- you know, was a real
9 honor.

10 MR. BATCHELDER: Let's look at Defendant's Exhibit
11 68.

12 Q. (By Mr. Batchelder) Do you recognize this one?

13 A. Yes. This is the Mobile World Conference Award in 2011,
14 which names the Apple iPhone 4 as the best mobile device.

15 Q. All right. And in that first paragraph, it says: A
16 host of new Android phones from Samsung, LG Electronics, HTC,
17 Sony Ericsson made their debut at Mobile World Congress 2011
18 here this week, but it was the relatively venerable iPhone 4
19 from Apple that was named the show's best mobile device.

20 Now, were those companies that are referenced there,
21 were they competing with Apple at the time?

22 A. Oh, absolutely, yeah. This is four years after the --
23 after the iPhone -- the original iPhone had been launched,
24 and they were really working very hard to create their
25 smartphones. A lot of -- a lot of competition in this space

1 by 2011.

2 Q. All right. Have you now seen all of the awards that
3 have been issued to the accused devices?

4 A. No, no, not even -- not even close, but, you know, these
5 are representative of the -- the awards that we've won over
6 the years.

7 Q. All right. Thank you, Mr. Muller.

8 MR. BATCHELDER: Your Honor, I pass the witness.

9 THE COURT: Further direct?

10 MR. WARD: May we approach, Your Honor?

11 THE COURT: You may.

12 (Bench conference.)

13 MR. WARD: Your Honor, Apple was permitted under
14 the motions in limine to reference -- and it had a number of
15 patents, that it has a patent portfolio; but there was a
16 direct violation of the MIL just now, and Mr. Batchelder
17 walked the witness into it to say, how many patents do you
18 have dealing with either the App Store or the iTunes Store,
19 asking him specifically to reference the patents that he has
20 with respect to that feature.

21 It's a direct violation, and we'd request some
22 instruction to the jury that it was improper and the jury's
23 to disregard it.

24 THE COURT: All right. Before you respond,
25 which -- which MIL are we talking about? Is it on the agreed

1 list or the disputed list?

2 MR. WARD: D. It's Docket 440, Exhibit --

3 THE COURT: Plaintiffs'?

4 MR. WARD: It's just Order Regarding Motions in
5 Limine -- Plaintiffs' Motion in Limine D.

6 MR. BATCHELDER: Your Honor, if I might, there is a
7 transcript discussion of all this, so there's more than just
8 the MIL itself. There's a discussion on the record. And the
9 conclusion was that Apple could give summary statistics about
10 patents at a high level but could not get into specific
11 patents. I've done exactly that.

12 THE COURT: All right. Give me just a minute,
13 Counsel.

14 MR. BATCHELDER: I'll be right back, Your Honor.

15 (Pause in proceedings.)

16 THE COURT: All right. Well, the order in limine
17 says that Apple is not precluded from testifying generally
18 about its ownership of patents and licenses. I gather your
19 objection is that they commented specifically --

20 MR. WARD: Absolutely.

21 THE COURT: -- about the iTunes and App Store.

22 MR. WARD: Absolutely, Your Honor.

23 MR. BATCHELDER: It's -- what we were forbidden to
24 do, my understanding, is present the specific patents. We
25 hadn't planned to do that. We couldn't do that. What we did

1 was generally said that we have this many general patents in
2 broad brush strokes. We didn't get into any specifics about
3 what they cover, any of the kind.

4 MR. WARD: May I respond, Your Honor?

5 THE COURT: Briefly.

6 MR. WARD: Instead of approaching the bench to make
7 sure that what he intended to do was not a violation of the
8 MIL, he just walked into it and said: So you have patents
9 that cover apps and/or iTunes. Which is what's improper,
10 because now it leaves the impression with the jury that
11 they've got patents in this area that somehow give them the
12 right to use these inventions, which is what the order in
13 limine was intended to address, that misperception.

14 MR. BATCHELDER: And, Your Honor, to be clear, the
15 question that I asked, I believe, was the patents that have
16 been issued to the engineers that have worked on the stores.
17 That was a very high-level, broad-brush question. I did not
18 get into any specifics about what they said or did. That's
19 exactly what I understood the MIL to allow me to do.

20 MR. WARD: Well, and, Your Honor, he's taking his
21 interpretation of the MIL. I think we can pull the
22 transcript exactly, and there won't be any question about the
23 question and answer, because I can't recite it verbatim.

24 But what the MIL was intended to avoid is exactly
25 what just happened. Rather than approaching and making sure

1 he could do it, he just walked through it.

2 THE COURT: What's this witness going to say if you
3 ask him: You're not telling this jury that Apple has patents
4 that allow them to do what you're accused of in this case?

5 MR. WARD: I don't know what he'll say, but what
6 we'd like is an instruction from the Court, of course,
7 because me asking it, doesn't have the same effect of them
8 knowing what they just did was improper; and it should not be
9 taken as any evidence of any license to do -- a license for
10 Apple to do what we are accusing them of.

11 THE COURT: There is no license defense in this
12 case, correct?

13 MR. WARD: No, sir.

14 MR. BATCHELDER: Well, that is correct right now.
15 And I will say, Your Honor, I would be fine with an
16 instruction in the jury instructions that said a given party
17 having patents doesn't allow them to do anything, because it
18 doesn't.

19 I mean, a patent allows you to exclude. It doesn't
20 allow you to practice. That's fine. I think there may even
21 be an instruction to that effect. I don't mean to create any
22 misimpressions in that regard at all.

23 MR. WARD: Your Honor, can I show you a transcript
24 from the hearing with respect to --

25 MR. BATCHELDER: So, Your Honor, here's the --

1 here's the next question I asked before we do that. This is
2 me talking to Judge Mitchell.

3 So for a given witness, a given engineer could say:
4 I've got patents in my name. We do think it's appropriate
5 for a given witness to say: My group worked on this
6 particular area of iTunes, and our group has X numbers of
7 patent emanating from that work.

8 I understand Your Honor said we can't get into the
9 specific patents. We can introduce those exhibits. That's
10 what I understand the ground rules are.

11 The Court: That's right.

12 So that's exactly what I've done.

13 THE COURT: Mr. Ward, do you have anything else?

14 MR. WARD: Your Honor, and then Mr. Cassady follows
15 up with: Your Honor, that's fine, as long as it is about
16 with the group, not about what we have. iTunes is a general,
17 overall concept to, say, movie purchases on iTunes.

18 MR. BATCHELDER: And that's exactly what I did.

19 MR. WARD: I think he's right.

20 THE COURT: All right. You're withdrawing your
21 objection?

22 MR. WARD: Yes, sir.

23 THE COURT: We don't have time to go through all
24 the transcripts from the pretrial.

25 All right. Let's move on.

1 MR. WARD: All right.

2 (Bench conference concluded.)

3 THE COURT: All right. Do you have further
4 examination of this witness, Mr. Ward?

5 MR. WARD: I do, Your Honor.

6 THE COURT: Please proceed.

7 MR. WARD: Can I have the document camera?

8 REDIRECT EXAMINATION

9 BY MR. WARD:

10 Q. Mr. Muller, you provided a timeline, and that's the
11 timeline that we talked about during your direct -- or that
12 you talked about during your direct?

13 A. Yes, sir.

14 Q. Now, you've got on there iPod, iTunes 2001, correct?

15 A. Correct.

16 Q. But the iTunes Store, as it exists and it's accused of
17 infringement, didn't come about until several years later,
18 2003. You understand that, correct?

19 A. Yes, that's -- that's correct.

20 Q. So --

21 A. Yeah, iTunes was actually released in 2000. It was a --
22 it was a -- it came out a year before the iPod even.

23 Q. Right. But as far as being able to enter your password
24 and your ID and download content from the store, that wasn't
25 until 2003, correct?

1 A. Yes, sir, that's correct.

2 Q. And you understand Mr. Racz's patents, the original
3 issued in 1999, correct?

4 A. The -- the patents didn't issue --

5 Q. I'm sorry.

6 A. -- in 1999.

7 Q. The application was filed in 1999, correct?

8 A. Yes, that's correct.

9 Q. And did you tell us earlier that you weren't an expert
10 on patents?

11 A. Yes, sir.

12 Q. You're -- you're not a lawyer, right? You told me that
13 during your -- when I first examined you, right?

14 A. That is correct, I'm not a lawyer.

15 Q. But you've got 10 patents in your own name, correct?

16 A. That's correct.

17 Q. So you're no stranger to patents, are you?

18 A. No, I've -- I've worked with -- I've worked with our
19 legal team over the years.

20 Q. And so you know that when patents get filed, such as in
21 2010 or in 2011, they get a priority date back to the date of
22 the original application -- or at least that's the allegation
23 in this case. You understand that, right?

24 A. Yes, that -- that is my understanding.

25 MR. WARD: All right. Let's look at Plaintiffs'

1 Exhibit No. 9, Column 1. And let's look -- I tell you what,
2 let's look at the first page of Plaintiffs' Exhibit 9 first.

3 Next page.

4 Q. (By Mr. Ward) And we'll look at the filing date. It's
5 November 10, 2010, for the '221, right?

6 A. Yes, I see that.

7 MR. WARD: And let's go to Column 1 and then Lines
8 10 through 16.

9 Q. (By Mr. Ward) So this is talking about cross
10 referencing and relating to other applications, and you see
11 there it's referencing the UK application filed on October
12 25, 1999, correct?

13 A. Just a second. Yes. Yes, sir, I see that.

14 Q. Have you studied these patents any further since your
15 deposition? You said you spent 30 minutes before your
16 deposition looking at them. Have you looked at them in more
17 detail since then?

18 A. Yes.

19 Q. Okay. And so what that means is -- you understand, is
20 that even though this patent gets filed in 2010, it gets the
21 priority date back to 1999. You understand that?

22 A. Yes, that -- that is my understanding.

23 Q. And there's a trade-off with that, isn't there?

24 A. Maybe.

25 Q. Yeah. The trade-off being that if your patent has a

1 life of 20 years and you -- you get a priority date back to
2 1999, you don't get 20 years from the date the application is
3 filed; it's 20 years from that priority date, or thereabouts?

4 A. Okay. I'll --

5 Q. Is that news to you, or -- or did you know that?

6 A. For the priority date for the back-dating, for a
7 continuation?

8 Q. Yes, sir.

9 A. I don't know the specifics on --

10 Q. Okay.

11 A. -- on -- on how continuations work.

12 Q. Fair enough.

13 MR. WARD: And let's look at exhibit -- Plaintiffs'
14 Exhibit 11, and look at the second page of that document.

15 Q. (By Mr. Ward) And this is the '772 patent. It's also
16 in suit. You understand that?

17 A. Yes, sir.

18 MR. WARD: And let's look at Column 1 of the '772.

19 Q. (By Mr. Ward) Same thing here, right? It's claiming
20 priority back to the UK application filed in 1999, right?

21 A. Yes, sir, I see that.

22 MR. WARD: Look at Plaintiffs' Exhibit 100, Mr.
23 Mortensen?

24 Q. (By Mr. Ward) Okay. This is Plaintiffs' Exhibit 100,
25 and you see there at the very first bullet point: Software

1 creates the largest share of product value.

2 Did I read that right?

3 A. Yes, sir.

4 Q. And this is what Apple is -- is saying, correct?

5 A. I don't know the context for this document or the time
6 period here.

7 Q. Okay. It looks like in the bottom left-hand corner,
8 highly confidential, attorney's eyes only; and it's got the
9 Apple emblem in it, correct?

10 A. Yes, sir, I -- I see that.

11 Q. You don't have any reason to believe this is not an
12 Apple document, do you?

13 A. No, it looks like an Apple document.

14 MR. WARD: All right. Let's look at Plaintiffs'
15 Exhibit 103.28, Page 1424?

16 Q. (By Mr. Ward) All right. And this document is
17 entitled: iPhone Buyer Survey, Apple Market Research &
18 Analysis, Fiscal Year '11, First Quarter.

19 Did I read that right?

20 A. Yes, sir, you did.

21 Q. So do you have a Market Research & Analysis Department?

22 A. I'm -- I'm not aware of a group that goes by that name.

23 Q. Have you ever seen this type of survey document before
24 in the years that you've worked at Apple?

25 A. I've -- I've never seen a survey document like this.

1 Q. Okay.

2 MR. WARD: Let's look at 1430 of this document.
3 It's entitled: Purchase Decision Making. And then go to
4 Page 1432.

5 Q. (By Mr. Ward) Do you remember seeing this document
6 yesterday?

7 A. Yes. Yes, sir, I do.

8 Q. All right. And so at least Apple's -- I'll call them
9 survey department for shorthand -- is doing a survey, and
10 it's surveying the main reason for purchase, right?

11 A. Yes, sir, I see that.

12 Q. You talked about all the features of the iPhone, but
13 Apple's Survey Department is telling us what the main reasons
14 are that customers are buying iPhones, correct?

15 A. Yes. This looks like that, yes.

16 Q. Okay. Now, you told us in your deposition and you --
17 you affirmed today that it's Apple's position that it's not
18 possible to value specific features, right?

19 A. Yes, that's correct.

20 Q. And just because Apple takes the position that you can't
21 value specific features, doesn't mean they don't have value,
22 right?

23 A. Sure.

24 Q. And so when Apple says there's no way to do it, we've
25 got the burden of proof, so we've got to come up with a way

1 to value the features that we accuse Apple of infringing
2 with, correct?

3 A. Yes, sir.

4 Q. We've got to provide the jury with what we believe is a
5 reasonable royalty, right?

6 A. Yes, sir.

7 MR. WARD: Can I have the document camera, please?

8 Thank you.

9 Q. (By Mr. Ward) So if we go back to my illustration of
10 the -- let's call it the greatest oil well in East Texas,
11 okay?

12 A. Okay.

13 Q. And let's say that oil well has generated \$43 billion of
14 revenue. Are you with me?

15 A. Yes, sir.

16 Q. Assume that I originally bought this land for \$3
17 million, okay? And I spend many millions of dollars building
18 fence and protecting it, okay? Are you with me?

19 A. I'm with you.

20 Q. And we'll -- we'll -- Exxon will be our culprit here,
21 too, okay?

22 A. Sounds great.

23 Q. So Exxon makes \$43 billion off this well. We determine
24 that they've been drilling on my property, taking the
25 minerals out, and those -- that I've got a deed to, and we've

1 got to figure out what they owe me for taking my property,
2 okay?

3 A. Sure.

4 Q. Do you think it would be fair, in Apple's view, to take
5 that \$3 million and say, well, you know what, I'll put it in
6 an aggressive fund, we'll multiply out what that fund would
7 grow to in -- over a 10-year period. 3 million over 10 years
8 turns out to be \$20 million under Exxon's math, okay?

9 But Exxon says we don't owe you 20 million because we
10 only got 22 percent of the market, okay? And so we're going
11 to pay you \$4.5 million. That's one way to do the math,
12 right?

13 A. I'm -- I'm following you, yes.

14 Q. Now, if you were in my shoes and you owned that land and
15 this oil company had made \$43 billion taking minerals out
16 from under the land, do you think it'd be fairer for them to
17 pay a percentage of what they made using my property -- or
18 your property in this example now? Or would it be more fair
19 to say, you know what, there's no way to value, so let's just
20 stick your 3 million in the market, divide it up by market
21 share, and we'll call it a day?

22 A. I mean, to me, it looks like in the case of mineral
23 rights, you know, where all the value is coming from those
24 minerals, it would make sense.

25 Q. To pay a percentage of what they took?

1 A. Yes, sir.

2 MR. WARD: Pass the witness.

3 THE COURT: Further cross-examination.

4 MR. BATCHELDER: Thank you, Your Honor.

5 RECROSS-EXAMINATION

6 BY MR. BATCHELDER:

7 Q. Mr. Muller, you were asked about the rules for
8 continuation patent applications and priority dates for
9 patent applications. Do you recall that just now?

10 A. Yes, sir, I do.

11 Q. Is there a group at Apple that handles those kinds of
12 issues?

13 A. Yes, we -- we have a patent legal group, which -- which
14 handles all -- all matters related to patents.

15 Q. Are you in the legal group, sir?

16 A. No, sir, I'm not. I'm -- I'm on the engineering team.

17 Q. You were also asked about surveys, correct?

18 A. Yes. Yes, sir, I was.

19 Q. Are you in any survey group at Apple?

20 A. No, sir, I'm not.

21 Q. And what group are you in?

22 A. I'm in the -- I'm in the engineering group.

23 Q. And what do you do?

24 A. I -- I write -- write code. I develop products. I
25 oversee groups of engineers. Yeah, that's what I do.

1 Q. If I could just turn to the easel.

2 Let me come back to Mr. Ward's example about someone
3 who's got some land with a mineral deed. And let's --

4 MR. BATCHELDER: I'm sorry. I didn't mean to block
5 you, Ladies and Gentlemen.

6 Q. (By Mr. Batchelder) Let's say someone does have a piece
7 of land with mineral deeds, but they haven't worked very
8 hard, they buy land that isn't all that valuable, and someone
9 else who has worked harder, invested more, buys a different
10 piece of land that is more valuable, and they put up oil rigs
11 on that.

12 As a result of their hard work and investments,
13 they do something different and better than what could be
14 done on this piece of land. Do you understand me this far?

15 A. Yes, sir, I do.

16 Q. Does this person owe any trespassing rights to that
17 person?

18 A. No, sir, they wouldn't.

19 MR. BATCHELDER: Pass the witness, Your Honor.

20 THE COURT: Additional direct?

21 FURTHER DIRECT EXAMINATION

22 BY MR. WARD:

23 Q. So are we going to hear from Apple's Survey Department
24 and have them explain to us what these surveys mean?

25 A. I'm -- I'm not aware of a Survey Department at Apple.

1 Q. Do you really think they don't exist?

2 A. Those -- those documents look like they come out of
3 Mr. Schiller's marketing group.

4 Q. Okay. So the marketing group does the surveys?

5 A. That -- that's what those documents look like to me.

6 Q. Okay. Is anyone from Apple coming to tell us what these
7 documents mean, or is the jury going to have to look at the
8 documents and interpret them for what they say?

9 A. I don't -- I don't -- I don't believe anyone's going
10 to -- going to be here.

11 Q. All right. So using Mr. Batchelder's example here, I
12 think this is Apple over here, right? You think that's what
13 he was intending, that they've got their own property and
14 they've got oil wells going over here? Is that the way you
15 interpreted it?

16 A. Yes, sir.

17 Q. All right. So Apple is not on Smartflash's property,
18 right?

19 A. Correct, sir.

20 Q. So it just wants to invalidate the patents to teach
21 Smartflash and Mr. Racz a lesson?

22 A. I wouldn't characterize it that way.

23 MR. WARD: Pass the witness.

24 THE COURT: Further cross-examination?

25 FURTHER CROSS-EXAMINATION

1 BY MR. BATCHELDER:

2 Q. Sir, to the extent that surveys relate to damages in
3 this case, who's going to be here talking to this jury about
4 how to value damages in this case?

5 A. Apple has an expert, Dr. -- sorry, Dr. Becker who will
6 be speaking to damages.

7 MR. BATCHELDER: Pass the witness, Your Honor.

8 MR. WARD: Nothing further.

9 THE COURT: All right. Mr. Muller, you may step
10 down.

11 Plaintiff, call your next witness.

12 MR. CALDWELL: Your Honor, the Plaintiff calls
13 Mr. Augustin Farrugia, an Apple employee. I believe they may
14 have to bring him in.

15 THE COURT: Is he subject to the Rule?

16 MR. CALDWELL: He is, Your Honor.

17 MS. FUKUDA: Should I go get him, Counsel?

18 THE COURT: Please.

19 You calling him adversely, Counsel?

20 MR. CALDWELL: Yes.

21 THE COURT: All right. You may go to the podium.

22 Please come forward and be sworn first.

23 (Witness sworn.)

24 THE COURT: Please come have a seat at the witness
25 stand.

1 All right. Mr. Caldwell, you may proceed.

2 MR. CALDWELL: Thank you, Your Honor.

3 AUGUSTIN FARRUGIA, PLAINTIFFS' WITNESS, SWORN

4 DIRECT EXAMINATION

5 BY MR. CALDWELL:

6 Q. Good afternoon.

7 A. Good afternoon.

8 Q. Will you please introduce yourself to the jury?

9 A. My name is Augustin Farrugia.

10 Q. Mr. Farrugia, you work for Apple, correct?

11 A. Yes, sir.

12 Q. We've met before?

13 A. Yes, sir.

14 Q. And that was at your deposition?

15 A. Yes, sir.

16 Q. Do you remember the scene at your deposition?

17 A. Could you repeat the question, please?

18 Q. Yes, sir. Do you remember your deposition?

19 A. Yes, sir.

20 Q. We were at Ropes & Gray's office in California, correct?

21 A. Yes, sir.

22 Q. Mr. Batchelder was there?

23 A. Yes, sir.

24 Q. Ms. Fukuda was there?

25 A. Yes, sir.

1 Q. Mr. Post was there?

2 A. Yes, sir.

3 Q. Ms. Cyndi Wheeler from Apple was there?

4 A. I don't think so.

5 Q. Okay. There was a video camera, correct?

6 A. Yes, sir.

7 Q. And a court reporter?

8 A. Yes, sir.

9 Q. Now, Mr. Farrugia, you are the senior director of DRM,
10 or digital rights management, technologies at Apple, correct?

11 A. Yes, sir.

12 Q. Do you agree that DRM stands for digital rights
13 management?

14 A. Yes, sir.

15 Q. Is that essentially managing rules for when you can use
16 or access content?

17 A. No, sir.

18 Q. It's not?

19 A. No, sir.

20 Q. Now, does digital rights management specify conditions
21 for accessing content?

22 A. Yes, sir.

23 Q. Mr. Farrugia, we just heard from Mr. Muller, and he was
24 explaining -- and I understand you weren't in the courtroom.

25 I just want you to understand, he's the witness that preceded

1 you, okay?

2 A. Yes, sir.

3 Q. Is it correct that you were not at Apple during the
4 early days of the development of the iTunes Store?

5 A. Yes, sir, this is correct.

6 Q. You joined Apple in April of 2005, correct?

7 A. Correct, sir.

8 Q. And how soon after -- I believe it was April 11th, 2005?

9 A. Yes, sir.

10 Q. How soon after that did you meet Mr. Muller?

11 A. Very soon.

12 Q. Within a day or two?

13 A. I don't recall.

14 Q. Probably a few days or a week?

15 A. Probably. I don't recall.

16 Q. What about Mr. Mirrashidi that we may hear from later in
17 the case? Did you meet him pretty soon?

18 A. Yes, sir.

19 Q. Now, when you were hired at Apple, you were hired
20 straight into the title of director of DRM technologies,
21 correct?

22 A. Yes, sir.

23 Q. When you first got hired at Apple, that was your first
24 job in the field of digital rights management, correct?

25 A. Yes, sir.

1 Q. And as of April of 2005, just prior to starting with
2 Apple, you had not very much background in digital content
3 security, correct?

4 A. No, sir.

5 MR. CALDWELL: Mr. Mortensen, can we pull up Mr.
6 Farrugia's July 2nd, 2014 deposition, Page 28, Lines 8
7 through 13?

8 Q. (By Mr. Caldwell) Mr. Farrugia, you were under oath at
9 your deposition, correct?

10 A. Yes, sir.

11 Q. And when I asked you at your deposition: As of April of
12 2005, just prior to starting with Apple, tell me what your
13 background in digital content security was?

14 You answered: Not very much. I didn't work on the
15 digital rights management before. It was my first job on the
16 digital rights management. Correct?

17 A. Correct, sir.

18 Q. And so, Mr. Farrugia, is it fair to say that you learned
19 DRM at Apple?

20 A. No, sir.

21 Q. In the time you've been at Apple, you've received a
22 promotion now to level of senior director of DRM, correct?

23 A. This is correct, sir.

24 Q. And now you're only about three rungs down from the CEO,
25 Mr. Tim Cook, correct?

1 A. Yes, sir.

2 Q. Mr. Farrugia, would you say that you were Apple's most
3 knowledgeable person about FairPlay updates since you joined
4 Apple?

5 A. I don't understand the question.

6 Q. Okay. In the time since you've joined Apple, are you
7 the person most knowledgeable about updates and redesigns of
8 FairPlay?

9 A. Yes, sir.

10 Q. Are you familiar with buying and using content through
11 the App Store or the iTunes Store?

12 A. Yes, sir.

13 Q. Do you agree that an Apple ID corresponds to a piece of
14 data known as a DSID or an account ID?

15 A. Yes, sir.

16 Q. And you use that Apple ID to make purchases, correct?

17 A. Yes, sir.

18 Q. Sir, FairPlay is developed in your department, correct?

19 A. Yes, sir.

20 Q. And FairPlay is the DRM, or digital rights management,
21 technology that protects content sold from the iTunes Store?

22 A. Yes, sir.

23 Q. When you first began working at Apple, FairPlay was
24 designed for the purposes of protecting music; is that right?

25 A. Yes, sir.

1 Q. And it is now used with movies, TV shows, apps, and
2 books, correct?

3 A. Yes, sir.

4 Q. Those products, movies, TVs, apps, and books are
5 encrypted when you download them from the Apple servers,
6 correct?

7 A. No, sir.

8 Q. They're not encrypted?

9 A. Yes, sir.

10 Q. I'm sorry. What was wrong with my statement?

11 A. They're not coming from the Apple servers.

12 Q. We'll talk about that in just a few minutes.

13 You agree that the content downloaded, movies, TV shows,
14 apps, and books are encrypted when downloaded, correct?

15 A. Yes, sir.

16 Q. And when you buy content, like movies, TVs, apps, and
17 books, that content is -- excuse me -- is tied to the DSID or
18 account ID, correct?

19 A. Sorry. I don't understand the question.

20 Q. The encrypted content downloaded is tied to or
21 correlated to a particular account ID, correct?

22 A. Yes, sir.

23 Q. And that keeps people from sharing content like apps
24 because, for example, if I bought some content, it might not
25 run on your iPhone, correct?

1 A. Yes, sir.

2 Q. And FairPlay is also useable to enable rental
3 functionality, isn't it?

4 A. Yes, sir.

5 Q. Like movie rentals?

6 A. Yes, sir.

7 Q. And that way you can get the same exact content, like
8 movie content, at a lower price than the purchase price,
9 correct?

10 A. I -- yes, sir.

11 Q. There's no dispute that the content itself, in other
12 words, that the data for the movies, for example, is
13 identical between the purchased version and the rental
14 version, correct?

15 A. Yes, sir.

16 Q. There -- there -- we do not disagree about that,
17 correct?

18 A. Yes, sir.

19 Q. The difference is in the rules of how long you have to
20 watch it, right?

21 A. Yes, sir.

22 Q. Had people worked on FairPlay and digital rights
23 management at Apple before you joined April 11th, 2005?

24 A. Yes, sir.

25 Q. When you joined in April of 2005, FairPlay, the DRM

1 system, had real problems, didn't it?

2 A. Yes, sir.

3 Q. In fact, the first folks that worked on it before you
4 got there did not have the right solution, did they?

5 A. Security-wise, yes, sir.

6 Q. In terms of security?

7 A. Yes, sir.

8 Q. Would you agree that the design of the FairPlay security
9 was pretty terrible before you got to Apple?

10 A. It had vulnerabilities.

11 Q. Vulnerabilities, correct?

12 A. Yes, sir.

13 Q. You would agree it was designed all wrong?

14 A. Yes, sir.

15 Q. In fact, when you got to Apple in April of 2005, you are
16 not aware of Apple having anyone prior to you who had
17 experience in digital content security, correct?

18 A. Yes, sir.

19 Q. Is FairPlay DRM valuable to Apple?

20 A. Yes, sir.

21 Q. In fact, book publishers insist on it, correct?

22 A. I don't know that, sir.

23 Q. Do you believe that to be true?

24 A. I believe, but I don't know.

25 Q. Movie studios insist on protection for their movies,

1 don't they?

2 A. I believe.

3 Q. Do you also agree that it is important for FairPlay and
4 the digital rights management system at Apple to be simple?

5 A. Yes, sir.

6 Q. Are you familiar with any online digital content stores
7 that existed prior to iTunes?

8 A. Yes, sir.

9 Q. They weren't very good, were they?

10 A. I cannot comment on that, sir.

11 Q. And then even in 2003, Apple had trouble building a good
12 digital content store in terms of the security aspects,
13 correct?

14 A. That I learned after that, yes, sir.

15 Q. I'm sorry?

16 A. I learned when I was at Apple. In 2003, I was not at
17 Apple.

18 Q. Absolutely. And you joined in 2005, correct?

19 A. Yes, sir.

20 Q. And you could tell by looking at the solution Apple had
21 in place then that they'd had trouble designing a secure
22 system prior to you getting there, correct?

23 A. Yes, sir.

24 Q. And you made some changes to FairPlay in 2005 in just a
25 few months after you got there, right?

1 A. Yes, sir.

2 Q. Would you also agree that a few years later, when Apple
3 released the iPhone and then the first iPod Touch, FairPlay
4 had to be further changed in its functionality now that you
5 were getting content directly on a little handheld terminal?

6 A. Yes, sir.

7 Q. Is there any dispute that these Apple devices are
8 multimedia devices?

9 You agree with that, correct?

10 A. Yes, sir.

11 Q. You weren't able to just stick with the FairPlay
12 implementation that you had for desktops and just have that
13 be exactly the same on a mobile device, correct?

14 A. Yes, sir.

15 Q. Who is your boss, Mr. Farrugia?

16 A. Excuse me. Patrick Gauthier.

17 Q. And who's his boss?

18 A. Eddy Cue. Mr. Eddy Cue.

19 Q. Mr. Eddy Cue?

20 Have you ever heard Mr. Cue or Mr. Tim Cook talk about
21 how important it is to have the ability to purchase content
22 on the device that you're just carrying with you?

23 A. No, sir.

24 Q. Mr. Farrugia, would you agree that Apple has seen the
25 number of movies that sell on iPhone directly -- directly to

1 an iPhone or directly to an iPad is much greater than what
2 Apple sees through the desktop version of iTunes?

3 A. I don't know, sir.

4 Q. Do you agree that Mr. Cue would be able to, if he were
5 here, address the commercial impact of being able to have
6 content purchased directly from an iPhone or an iPad?

7 A. Yes, sir.

8 Q. Are we going to hear from Mr. Cue in this trial?

9 A. I don't know, sir.

10 Q. Earlier you made reference to the fact that content
11 downloaded does not come from Apple.

12 Do you recall that?

13 A. Yes, sir.

14 Q. And is that because you believe Apple is delivering
15 content through servers leased from Akamai?

16 A. Yes, sir.

17 Q. But, sir, the content that Akamai delivers to somebody's
18 iPhone or iPad still comes from Apple, doesn't it?

19 A. Yes, sir.

20 Q. When somebody writes a new app, they don't send it to
21 Akamai for downloading, correct?

22 A. No, sir.

23 Q. They send it to Apple, don't they?

24 A. Yes, sir.

25 Q. There's a group at Apple called the ingestion group that

1 takes in new content, like movies or apps, correct?

2 A. Yes, sir.

3 Q. And it's that group at Apple that packages it up with
4 your digital rights management and prepares the encrypted
5 file, correct?

6 A. Yes, sir.

7 Q. And Apple delivers it to customers using Akamai's
8 network; isn't that right?

9 A. Yes, sir.

10 Q. In fact, Akamai has no control over the content because
11 it's encrypted from the time it starts at Apple until it's
12 delivered to the user, correct?

13 A. Yes, sir.

14 Q. Mr. Farrugia, do you believe this case is important to
15 Apple?

16 A. Yes, sir.

17 Q. In terms of your personal feelings, is it true that you
18 just care about this case however much the legal department
19 tells you to?

20 A. Yes, sir.

21 Q. Do you know how many patents are at issue in this case,
22 sir?

23 A. No, sir.

24 Q. Have you read any of the asserted claims in the
25 patents-in-suit?

1 A. I don't know, sir.

2 Q. At the time of your deposition, you had not, correct?

3 A. Yes, sir.

4 Q. Yes, you had read them, or yes, what I said is correct?

5 A. Could you -- sorry. I don't understand the question.

6 Q. I'm sorry. I just didn't want there to be something
7 unclear in the record. My apologies.

8 Is it correct that at the time of your deposition, you
9 had not read any of the patent claims?

10 A. Yes, sir.

11 Q. Mr. Farrugia, have you ever read Smartflash's complaint
12 in this case?

13 A. No, sir.

14 Q. Do you take other company's patents into account when
15 designing and releasing products at Apple?

16 A. Yes, sir.

17 Q. That's not what you told me in your deposition, is it,
18 sir?

19 A. I don't recall what I said in deposition, sir.

20 MR. CALDWELL: Mr. Mortensen, will you pull up Mr.
21 Farrugia's July 2nd deposition on Page 193 at 3 to 6 -- I'm
22 sorry -- I'm sorry -- 196, at 14 to 17?

23 Q. (By Mr. Caldwell) Mr. Farrugia, in your deposition, I
24 asked you: Do you not take into account other companies'
25 patents when designing and releasing products at Apple?

1 And your answer was: Not very much.

2 Correct?

3 A. Yes. Correct, sir.

4 Q. And, in fact, if Mr. Racz had walked into your office in
5 February of 2008, around the time his first patent issued,
6 and handed you his patent, you would not have even read it,
7 correct?

8 A. Yes, sir.

9 Q. That's correct?

10 A. Yes, sir.

11 Q. Is that typical of Apple engineers?

12 A. Yes, sir, on my team.

13 Q. Mr. Racz, have you heard anything -- I'm sorry.

14 Mr. Farrugia, have you heard anything about Mr. Racz's
15 testimony in this case?

16 A. No, sir.

17 Q. And you were not in the courtroom on Monday when Mr.
18 Racz testified, correct?

19 A. No, sir.

20 Q. You weren't here for his description of his efforts to
21 build the products, correct?

22 A. Could -- sorry. I don't understand the question.

23 Q. I'm just -- you were not here when he described his
24 efforts to build his invention, correct?

25 A. Yes, sir.

1 Q. Mr. Farrugia, will you please tell the jury where you
2 worked from 1999 to 2002?

3 A. At Gemplus.

4 Q. Gemplus was a company that worked in hardware, software,
5 and they developed certain things in the mobile phone space,
6 correct?

7 A. Yes, sir.

8 Q. And you were a director at Gemplus, weren't you?

9 A. Yes, sir.

10 Q. Do you have a general understanding of what Mr. Racz's
11 invention is?

12 A. No, sir.

13 Q. When I took your deposition in July, that was not the
14 first time you had given sworn testimony, correct?

15 A. Yes, sir.

16 Q. In fact, you told me -- that was in July 2012. At that
17 point, you told me you had had your deposition taken one
18 previous time, correct?

19 A. Yes, sir.

20 Q. Mr. Farrugia, the actual truth is you've had your
21 deposition taken several times before I did; isn't that
22 right?

23 A. I'm sorry, sir?

24 Q. When I took your deposition in July of 2014, it's not
25 true that you'd had your deposition taken just once before,

1 is it?

2 A. I have no recollection beside the one we took together.

3 Q. In fact, Mr. Farrugia, going back even four years ago,
4 you testified under oath that you had previously even then
5 had your deposition taken five previous times, correct?

6 A. I don't have any recollection. Sorry.

7 MR. CALDWELL: Mr. Mortensen, can we pull up
8 Plaintiff's December 8th, 2010 deposition, starting at Page
9 9, Line 21, starting -- is that Page 9, Line 21? Okay. I'm
10 sorry, the top of that page, actually. I'm sorry. Look
11 through 2 through 4.

12 Q. (By Mr. Caldwell) In 2010, you were asked to estimate
13 the number of times you had had your deposition taken prior
14 to that time in 2010, and then you said five times, didn't
15 you?

16 A. This is what document says.

17 Q. So, Mr. Farrugia, it's not that you had your deposition
18 taken one prior time, you've had it taken at least six times
19 prior to when I took your deposition, correct?

20 A. I don't have any recollection.

21 Q. But that's what's what you've testified under oath?

22 A. Yes, sir.

23 Q. And some of those were with Gemplus, weren't they?

24 A. I don't have any recollection, sir.

25 Q. Sir, we won't able to see what you said under oath if

1 you were deposed while you were at Gemplus, will we?

2 A. I don't know, sir.

3 Q. I'd like to talk a little bit about the circumstances of
4 you coming to Apple, Mr. Farrugia. You agree that you worked
5 at Gemplus from 1988 to 2002, correct?

6 A. Yes, sir.

7 Q. You left Gemplus in 2002?

8 A. Yes, sir.

9 Q. Am I correct that you said you left and went to a
10 company called JetEye?

11 A. Yes, sir.

12 Q. And then a company called Young Generation?

13 A. Yes, sir.

14 Q. So was Young Generation your most recent previous
15 employer prior to Apple?

16 A. Yes, sir.

17 Q. But it's actually true that you quit Gemplus job and you
18 find an opportunity at Apple, correct?

19 A. I don't understand the question.

20 Q. I'm not trying to misquote you. I'd like to show you
21 what you said under oath.

22 A. Uh-huh.

23 MR. CALDWELL: Mr. Mortensen, will you pull up Mr.
24 Farrugia's December 8, 2010 deposition, on Page 16 at Lines
25 15 to 17?

1 Q. (By Mr. Caldwell) In 2010, under oath, you were asked
2 what caused you to come to Apple?

3 And you testified: Because I quit Gemplus job and I
4 find an opportunity at Apple.

5 Correct?

6 A. Yes, sir.

7 Q. Is that true?

8 A. Yes, sir.

9 Q. Is it actually true that Gemplus was your most recent
10 previous employer prior to Apple?

11 A. No, it was Young Generation.

12 MR. CALDWELL: Mr. Mortensen, in that same
13 deposition will you go to Page 18, Lines 5 through 9?

14 Q. (By Mr. Caldwell) You were under oath for all these
15 depositions, correct, sir?

16 A. Yes, sir.

17 Q. And in 2010, that was closer in time to when you started
18 at Apple, right?

19 A. Yes, sir.

20 Q. In 2010, under oath, Mr. Farrugia, you testified: And
21 was your experience with your most recent previous employer
22 prior to Apple --

23 You said: Which mean Gemplus?

24 Question: Yes.

25 Answer: Which is correct.

1 That's how you testified, isn't it, sir?

2 A. Yes, sir.

3 Q. Mr. Farrugia, which time under oath were you telling the
4 truth?

5 A. Both are the truth. I was not employed by Young
6 Generation. I was helping a friend. My last employer was
7 Gemplus.

8 Q. So you were still in the employ of Gemplus?

9 A. My last employer was Gemplus. And when I was at Young
10 Generation, I was helping a friend, which was not my
11 employer.

12 Q. Do you agree that you quit the Gemplus job to find an
13 opportunity at Apple?

14 A. Yes, sir.

15 Q. Do you recall telling us earlier you did not have much
16 experience in digital content security when you started at
17 Apple?

18 A. Yes, sir.

19 Q. Nevertheless, you applied for a job as director of
20 digital rights management, specifically to help provide
21 protection for content, correct?

22 A. Yes, sir.

23 Q. Mr. Farrugia, does it make any sense to you that Apple
24 would hire somebody with no digital content protection
25 experience to create the new position of director of digital

1 rights management?

2 A. Yes, sir.

3 Q. In 2005, it was hard to find somebody with that kind of
4 experience, wasn't it?

5 A. I believe so.

6 Q. And, in fact, Apple wanted to hire you specifically
7 because of the skill set you could bring from your Gemplus
8 days, didn't it?

9 A. No, sir.

10 Q. Mr. Farrugia, do you think Apple recognized you had any
11 special acumen or skill set that interested them?

12 A. Yes, sir.

13 Q. And that skill set was an expert in making digital
14 content protected, correct?

15 A. No, sir.

16 Q. That wasn't the skill set -- the special acumen or skill
17 set that interested Apple?

18 A. They under -- they understand my skill in security.

19 Q. Okay. Mr. Farrugia, my particular question is: Was the
20 special acumen or skill set that interested Apple, the fact
21 that you were expert in making digital content protected?

22 A. I don't know. I cannot answer this question, sir.

23 MR. CALDWELL: Mr. Mortensen, will you pull up Mr.
24 Farrugia's December 8th, 2010 deposition, starting at Page
25 17, Line 16? Thank you.

1 Q. (By Mr. Caldwell) Back in 2010, before this case was
2 pending, is when you gave this deposition, correct, sir?

3 A. I don't understand the question. I was reading.

4 Q. Mr. Farrugia, Smartflash's case was not pending against
5 Apple when you gave this testimony in 2010, correct?

6 A. Yes, sir.

7 Q. That's correct. I just want to make sure the
8 yes-sirs -- there -- there's no ambiguity. Am I correct?

9 A. Could you -- I don't understand the question. I don't
10 understand the question.

11 Q. Fair enough. Mr. Farrugia, is it true that Smartflash's
12 case against Apple was not pending when you gave this sworn
13 testimony in 2010?

14 A. I don't recall that, sorry.

15 Q. Do you accept my representation that this lawsuit wasn't
16 filed until 2013?

17 A. Yes, sir.

18 Q. So the lawsuit was not pending when you testified in
19 2010, was it?

20 A. Yes, sir.

21 Q. It was or was not?

22 A. It wasn't.

23 Q. And, Mr. Farrugia, you were asked under oath in 2010:

24 Do you think that Apple recognized that you had any
25 special acumen or skill set that interested them?

1 You answered: Correct.

2 Do you see that?

3 A. Yes, sir.

4 Q. And then you were asked: And what would that skill set
5 or acumen be?

6 You said, security.

7 Correct?

8 A. Yes, sir.

9 Q. And then they asked you to define that: And when you
10 say security, what do you mean?

11 And you referred to yourself as an expert in making
12 digital content protected.

13 Did I read that right, sir?

14 A. Yes, sir.

15 Q. And you got that experience at Gemplus, didn't you?

16 A. No, sir.

17 MR. CALDWELL: Okay. Mr. Mortensen, let's just
18 pick up where we were on Page 18, please?

19 Q. (By Mr. Caldwell) So you remember we just read the part
20 that said protected?

21 A. Yes, sir.

22 Q. All right. What -- what came next?

23 MR. CALDWELL: Mr. Mortensen, can you pull up 2
24 through 9?

25 Q. (By Mr. Caldwell) Immediately after that question, Mr.

1 Farrugia, in 2010, before this lawsuit was pending, you were
2 asked: And did you have previous experience in making
3 digital content protected?

4 And you said: This is correct.

5 And was that experience with your most recent previous
6 employer prior to Apple?

7 Which mean Gemplus.

8 And you said that was correct?

9 A. Yes, sir.

10 Q. Mr. Farrugia, have you personally made any effort to
11 ensure that Apple is respecting the patent rights of Mr.
12 Racz?

13 A. No, sir.

14 MR. CALDWELL: Pass the witness.

15 THE COURT: Cross-examination.

16 You may proceed, Ms. Fukuda.

17 MS. FUKUDA: Thank you, Your Honor.

18 CROSS-EXAMINATION

19 BY MS. FUKUDA:

20 Q. Good afternoon, Mr. Farrugia.

21 A. Good afternoon.

22 Q. Mr. Farrugia, where were you born?

23 A. In France.

24 Q. And is French your first language?

25 A. Yes.

1 Q. When did you first -- how old were you when you first
2 moved to the U.S.?

3 A. I moved the first time in the U.S. in 1997.

4 Q. And how old were you at that time?

5 A. 37.

6 Q. Now, Mr. Farrugia, you testified that you joined Apple
7 in April of 2005?

8 A. Yes, ma'am.

9 Q. And what was -- what is your current title?

10 A. Senior director, DRM technologies and internet services
11 security.

12 Q. And what are your responsibilities as the senior
13 director of DRM technologies?

14 A. To make sure that the content we deliver through iTunes
15 software, they are protected.

16 Q. And what are your responsibilities as the senior
17 director of Internet services security?

18 A. Try to make sure the account of our users are not
19 compromised.

20 Q. Now, you remember Mr. Caldwell had asked you a number of
21 questions regarding your experience with digital content
22 security?

23 A. Yes, ma'am.

24 Q. You remember that? And you had testified that you had
25 security experience?

1 A. Yes, ma'am.

2 Q. Can you explain to the jury what is the relationship
3 between DRM, or digital content, and security?

4 A. For security, it is basically a -- a global system where
5 we need to provide security. We see DRM as a subset of
6 security. I have 20 years of experience in security, which
7 means that developing the concept of DRM is really a subset
8 of security.

9 Q. Just so I under -- did you say that DRM is a subset of
10 security?

11 A. Yes, ma'am.

12 Q. Are there other areas where security is applied, other
13 than DRM?

14 A. At Apple?

15 Q. No, anywhere?

16 A. Security on the call, security in your life, security at
17 home. It's a style of living.

18 Q. And --

19 THE COURT: All right. Let me interrupt a minute.

20 Now that we're getting past yes or no answers,
21 we're going to have to slow down so that everybody can
22 understand the witness's statements, given his accent. Let's
23 try to -- try to slow the pace down a little bit, please.

24 MS. FUKUDA: Yes, Your Honor.

25 THE WITNESS: Yes, Your Honor.

1 THE COURT: Thank you. Let's continue.

2 Q. (By Ms. Fukuda) Now, Mr. Farrugia, you testified you
3 had 20 years of security experience, earlier?

4 A. When I joined Apple, I had 20 years of security
5 experience.

6 Q. Thank you. And was your 20 years of security experience
7 before you joined Apple relevant to protecting digital
8 content?

9 A. Yes, ma'am.

10 Q. How so?

11 A. It's key. Security is the way you think. Security is
12 the way you design system, which mean it was key to design to
13 tell what management we had at Apple.

14 Q. Mr. Farrugia, can you tell us what was your formal
15 education?

16 A. I have a -- what is equivalent to a Ph.D., but in
17 France, we have -- and I am graduated from a school called
18 Supelec, S-u-p-e-l-e-c.

19 Q. Let me just repeat that.

20 MS. FUKUDA: Your Honor, if I -- if you don't
21 mind, I believe it's S-u-p-e-r-l-e-c.

22 THE COURT: Well, I'm sure we'll have it spelled
23 both ways in the transcript. Let's proceed.

24 Q. (By Ms. Fukuda) And what was the Superlec school?

25 A. In France, we have two kind of education. We have --

1 what you have in U.S., you know, college and university, and
2 we have something called Grand Ecole. You want me to spell
3 Grand? G-r-a-n-d, space, E-c-o-l-e.

4 And this is what we call elite. I just give you an
5 example. You prepare an exam for which kind of school for
6 three years of your life, then you sit for the exam, and if
7 you pass, you're going to school. In France, national wise,
8 you have 60,000 students sitting for the exam. And on the
9 school hours, you have 172 seats, the prospective of how
10 difficult it is.

11 Q. And, Mr. Farrugia, were you one of those 170-something
12 people out of 60,000 who attended this school?

13 A. Yes, ma'am.

14 Q. And what subject matter -- I'm sorry. Did you
15 eventually obtain a degree from that school?

16 A. Yes, ma'am.

17 Q. What subject matter was your degree in?

18 A. Computer science and security.

19 Q. And is there some sort of equivalent degree to -- that
20 that can be compared to in the U.S.?

21 A. We can compare that to a Ph.D.

22 Q. Now, Mr. Farrugia, what kind of security experience did
23 you have before you joined Apple?

24 A. 20 years, and started when I was developing
25 microprocessor at a company called SGS Thompson. Then I

1 moved to Gemplus where I increased my background in security.

2 Q. Which year did you join Gemplus?

3 A. 1988.

4 Q. 1988?

5 A. Yeah.

6 Q. Thank you. Can you just tell us what kind of company
7 was Gemplus?

8 A. It was a smart card company. Gemplus was producing
9 smart cards.

10 Q. And about how -- this was back in 1988?

11 A. Yes, ma'am.

12 Q. And about how many smart cards has Gemplus sold during
13 your time there?

14 A. It's millions.

15 Q. Millions?

16 A. Yeah. Yes, ma'am.

17 Q. During your time at Gemplus, how many different types of
18 smart cards did Gemplus provide -- product types?

19 A. 10, 20.

20 Q. And while you were at Gemplus, how many different types
21 of smart cards did you work on?

22 A. Two.

23 Q. Can you tell us the two types you had worked on?

24 A. One was the -- a generic smart card, and the second one
25 was what we called SIM, S-I-M. It's a subscriber identity

1 modules.

2 Q. When did you work on the SIM card?

3 A. I work on the SIM cards roughly after I joined Gemplus.

4 Q. So that was from 1990 -- 1988 until about what time?

5 A. 1991.

6 Q. So for about three years?

7 A. Three years, yes, ma'am.

8 Q. And would you describe to the jury what is a SIM card?

9 A. Everybody has a GSM phone, and you have the small cards
10 in the GSM phone. That is the SIM card. It's the card that
11 produced the security to make sure that the telecom operator
12 knows that you are paying the bill.

13 Q. Now, you mentioned a GSM phone. Is there a more common
14 term for that?

15 A. A cell phone.

16 Q. Cell phone. And, Mr. Farrugia, is the SIM card
17 technology that you had worked on at Gemplus, is that still
18 being used in cell phones today?

19 A. Yes, ma'am.

20 Q. You mentioned another project at Gemplus. Could you --
21 that you had worked on. Could you tell us about that?

22 A. It was a generic smart card that people -- sorry --
23 people, what you purchase and you use that, but it was not
24 specific to one application.

25 Q. What kind of information could -- did that second

1 project protect?

2 A. It's a piece of information that allowed the
3 teleoperator, the company you pay the bill for the phone
4 services to make sure that you're not making any fraud on the
5 system. It's what we call in -- in -- in science
6 authentication. It's a verification, security verification.

7 Q. So you mentioned authentication or security
8 verification?

9 A. Yes, ma'am.

10 Q. And what was that designed to protect the user against?

11 A. It's designed to make sure that the user is not -- we
12 are not taking the subscription from somebody else.

13 Q. Thank you.

14 Now, you mentioned that Gemplus had 10 to 20 different
15 types of smart cards it was working on. Did you personally
16 work on all of those?

17 A. No, ma'am.

18 Q. Mr. Farrugia, during your time at Gemplus, did you ever
19 receive any recognition or award for your work in security?

20 A. Yes, ma'am.

21 Q. Can you give us an example?

22 A. In 19 -- between 1997 and 1999, I was doing a research
23 and development project at Gemplus. It was a pure research
24 and development project.

25 And this project in 1999 was proposed to -- to a

1 convention called Cartes, and it's the biggest convention for
2 smart cards. And in 1999, this convention award me the best
3 technical innovation of the year for the development I did
4 between 1997 and 1999.

5 Q. Mr. Farrugia, in which Gemplus office were you working
6 between the years of 2000 and 2002?

7 A. I was at Redwood City, California, USA.

8 Q. And during that time period, what type of work were you
9 doing for Gemplus?

10 A. Pure research and development.

11 Q. What do you mean by pure research and development?

12 A. It's -- it's funny because basically the way we wanted
13 to make sure that the project was very, very security and
14 very secret, they put us on the room which was a 20 by 20.
15 We had only one door. No one was able to get out or -- get
16 out by anything but the door. And the development was done
17 on this very room. We did not have any windows. It was a
18 secret project.

19 Q. And what was the project that you were working on during
20 those years?

21 A. It was a project called Smart X.

22 Q. And was that the same project that you had won an award
23 for earlier in 1999?

24 A. Yes, ma'am.

25 Q. During those years at Gemplus, between 2000 and 2002,

1 were you involved at all with commercial product development
2 at Gemplus?

3 A. No, ma'am.

4 Q. Were you involved at all with promotion -- promotional
5 marketing at Gemplus during those years?

6 A. No, ma'am.

7 Q. Let's -- during the year 2005, Mr. Farrugia, when you
8 joined Apple, did Apple already have DRM protection for its
9 content?

10 A. Yes, ma'am.

11 Q. And what was the name of Apple's DRM system in 2005 when
12 you joined?

13 A. FairPlay.

14 Q. And are you familiar with how the FairPlay system worked
15 at that time when you joined Apple?

16 A. Yes, ma'am. (Coughing.) Sorry.

17 MS. FUKUDA: Could we pull up a demonstration?

18 Q. (By Ms. Fukuda) And, Mr. Farrugia, did you have some
19 demonstratives prepared to show the jury how the original
20 FairPlay system at Apple was working --

21 A. Yes, ma'am.

22 Q. -- when you started?

23 And for the sake of just simplification, we'll call this
24 original FairPlay. Is that okay with you?

25 A. Yes, ma'am.

1 Q. Mr. Farrugia, could you describe to us what is happening
2 here on the screen?

3 A. It's an image where you would like to play a song,
4 right? And you have your computer, and you have iTunes, and
5 you try to play a song. You click on the song, and you want
6 to play the song. iTunes on your computer, on your desktop,
7 goes to Apple iTunes server, and it does a request.

8 Q. And what happens after the request is sent to the Apple
9 server?

10 A. When the -- all the condition have -- were fulfilled on
11 the iTunes server. iTunes server send you back what we call
12 in the computer science an URL, but you have to see that as
13 an address. And it send you a key.

14 Q. When you say, when all the conditions are fulfilled at
15 the Apple server, what are you referring to?

16 A. For example, we want to make sure that the machine, the
17 desktop, you are starting to do the request is authorized,
18 right, and the server verify that the desktop is authorized.

19 If the desktop is authorized, then we send you the
20 address, what we call the URL, and we send you the key.

21 Q. So when the Apple server verifies that the user device
22 is authorized and sends the URL and the key, what happens
23 next?

24 A. Then the next step, because we have the address, think
25 about the -- an address where iTunes desktop is able to take

1 the -- the song, iTunes desktop, what it does with the
2 address, it goes to what we call the content delivery
3 network. In this case, it could be Akamai. And what it
4 does, it goes and try to get the song and -- get the song
5 because it has the address.

6 Q. And what happens after that address is sent to the
7 third-party content delivery network?

8 A. The desktop is about to download the song, and the song
9 is encrypted. The song is very well protected. You can
10 imagine that the song is inside a vault.

11 Q. What happens after Step 4 when the song -- the protected
12 song arrives at the user device?

13 A. Then the desktop, your computer, what it did in the
14 past, because it had the key and because it had the song with
15 the key, it was able to open the vault in which we had the
16 song and take the song outside the vault, and it put that in
17 the memory of your computer.

18 Q. And what state is that song in at the end of Step 5?

19 A. Sorry. I don't understand the question.

20 Q. Oh. Is that song protected at the end of Step 5?

21 A. The song is not protected. The song is basically the
22 song you're going to play.

23 Q. Did you say it's unprotected?

24 A. It's unprotected.

25 Q. Okay.

1 A. It's not protected.

2 Q. And what happens at Step 6 at the user device?

3 A. And at Step 6, what iTunes in your computer did, it
4 takes the song and reprotect the song with another key.

5 Q. And was this generally how FairPlay worked when you
6 joined Apple?

7 A. Yes, ma'am.

8 Q. So Apple's original system had DRM?

9 A. Yes, ma'am.

10 Q. And Apple's original FairPlay had protected content?

11 A. Yes, ma'am.

12 Q. And Apple's original system used keys to protect and to
13 unprotect the content?

14 A. Yes, ma'am.

15 Q. Did you identify any security problems with Apple's
16 original FairPlay?

17 A. Yes, ma'am.

18 Q. Could you tell us what those problems were.

19 A. We identified two major problem. The first one was on
20 the key. And I got to give you -- I want to give you an
21 example about why the key.

22 Let's assume that my wife and I, we want to meet in
23 the -- in the house, and I send to my wife the address, and I
24 send to my wife, within the same paper envelope, the key,
25 right? And it go to mail.

1 You understand it's pretty easy for a hacker to open the
2 envelope, to read the address, and to have the key to meet me
3 in the house.

4 That is really -- that is what we had. The key was sent
5 with the address on the paper envelope. That was the first
6 problem we solved.

7 And the second one was the song on the Step No. 5 was
8 not encrypted, and it was easy for a hacker to take the song
9 from the computer.

10 Q. After you joined Apple, did you make changes to Apple's
11 FairPlay to address these problems?

12 A. Yes, ma'am.

13 Q. And would you walk us through some demonstratives to
14 show generally what changes you had made to address these
15 problems?

16 A. Yes, ma'am.

17 Q. And for the sake of terminology, are you okay if we call
18 this the improved FairPlay?

19 A. Yes, ma'am.

20 Q. Mr. Farrugia, can you tell us what's happening in Step 1
21 here?

22 A. Let's assume that now you try to play the same song, and
23 you do the same request you did in the past. We didn't
24 change that.

25 Q. And what about Step 2?

1 A. On Step 2, if the condition were fulfilled at the level
2 of the Apple iTunes server, now what we do is we still send
3 the address; however, now instead of sending the key in the
4 paper envelope, we send the key in the vault, very secure.

5 Q. And -- and if someone had access to your address, then
6 what happens?

7 A. You would not be able to go inside the house and to open
8 the house because you will not be able to get the key.

9 Q. What about Step 3?

10 A. Step 3, because you had the address, you can go to the
11 content delivery network and get the song the same way.

12 Q. What about Step 4?

13 A. Step 4, we didn't change that, because the song was
14 encrypted, and we didn't change that, and iTunes on the
15 desktop get the song the same way it did in the previous
16 example.

17 Q. And what happens after that protected content arrives at
18 the user device?

19 A. What we did is we removed the Step 5 from the process,
20 which mean that the song now is never unprotected, which
21 means that the hacker is not able to get the song from the
22 computer.

23 Q. So what are the main differences between the improved
24 FairPlay and the original FairPlay?

25 A. We have removed two weak points on the system. The

1 first was instead of having a key, which was not very well
2 protected, we protect the key under Step 2, and the key is
3 very well protected. And we have removed the song from the
4 computer where the hacker was able to take the song from the
5 computer.

6 Q. Mr. Farrugia, how long did it take you and your team at
7 Apple to implement that first round of changes to FairPlay?

8 A. The first -- the first round was implemented within six
9 months.

10 Q. And have you made additional changes since that time?

11 A. Yes, ma'am.

12 Q. What was the consequence of -- well, let me rephrase.

13 What was the impact of the changes you made to the
14 FairPlay -- or to Apple's FairPlay over the years?

15 A. We -- we have a system which was more secure and hackers
16 were not able to hack the system.

17 Q. Could you tell us, when you joined Apple, about how
18 frequently hackers were hacking into the iTunes system?

19 A. Was days, means few days.

20 Q. And over the years, as you improved the Apple FairPlay,
21 can you tell us what Apple's hacking incidence is now?

22 A. Now we don't have any hacks for the last two years and a
23 half, two-and-a-half years.

24 Q. You haven't had hacking for the past two-and-a-half
25 years?

1 A. Yes, ma'am.

2 Q. Was your system design change, one of the things that
3 improved the security of Apple FairPlay to prevent these
4 hacking incidents?

5 A. I don't understand the question.

6 Q. My apologies, Mr. Farrugia.

7 Your system design change that you just discussed here,
8 was that one of the things that helped improve the security
9 of FairPlay to reduce hacking?

10 A. Yes, ma'am.

11 Q. Did you do anything else over the years to improve the
12 security of Apple FairPlay?

13 A. We still improve the security of FairPlay for each and
14 every release of the system.

15 Q. Can you give us some additional examples of what you did
16 at Apple to improve security?

17 A. A good DRM needs three things: A design, it needs to
18 have a -- a good code protection system, and it needs to have
19 a good cryptography.

20 Q. Mr. Farrugia, was what you had discussed previously
21 system design?

22 A. Yes, ma'am.

23 Q. Okay. So the second thing you mentioned was code
24 protection?

25 A. Yes, ma'am.

1 Q. Would you explain to the jury generally what code
2 protection is?

3 A. Code protection is a science we have developed at Apple
4 where if someone -- a hacker, for example, tried to
5 understand how the program is executed, you're going to have
6 a lot of difficulties, because we are hiding a lot of
7 information.

8 You make the program very difficult to understand. The
9 program means iTunes, for example, or FairPlay, very
10 difficult to understand.

11 Q. Would you be able to sketch out an example to explain
12 what it is you're saying?

13 MS. FUKUDA: And, Your honor, may the witness use
14 the easel just for a couple of minutes for this limited
15 purpose?

16 THE COURT: All right.

17 MS. FUKUDA: Mr. Farrugia, if you --

18 THE WITNESS: Can I go, Your Honor?

19 THE COURT: You may.

20 And the Court Security Officer will bring you the
21 handheld microphone to use.

22 THE WITNESS: Thank you.

23 A. I'm going to give you a very small example how the code
24 protection works.

25 Let's assume that I'm classical engineer, and I don't

1 use code protection. And what I would like you to do --

2 THE COURT: Let me interrupt. We're not going to
3 have a lecture. If you want to draw on the chart and Counsel
4 wants to ask you questions, that's permitted. But we're not
5 going to have a witness stand and lecture the jury.

6 MS. FUKUDA: Understand, Your Honor.

7 THE COURT: We're not going to have a narrative
8 presentation.

9 Q. (By Ms. Fukuda) Mr. Farrugia, could you just give us one
10 example of -- that would illustrate what code protection is.

11 A. Yes, ma'am.

12 Let's assuming I want to do an addition, and I have -- I
13 want to add the value A and the value B together, and if I
14 want to add A plus B, basically, normal programming, we say
15 5.

16 Q. And, Mr. Farrugia, what happens with code protection?

17 A. In the code protection, what we do is now instead of
18 having a value 2 here, we're going to have 23, 2 means 23.
19 Instead of having B 3, I'm going to have 100, and when I do
20 this -- add A plus B, instead of having 123, I'm going to see
21 6. This is code protection.

22 Q. And when you implement code protection, what happens?

23 A. It's very difficult for hacker to understand, if I add
24 23 to 100, I get 6. They get lost.

25 Q. Thank you, Mr. Farrugia.

1 MS. FUKUDA: Thank you, Your Honor.

2 THE COURT: All right. Let's continue.

3 MS. FUKUDA: Thank you.

4 Q. (By Ms. Fukuda) And did -- Mr. Farrugia, did you and
5 your DRM team at Apple come up with new ways of doing code
6 protection to improve Apple FairPlay security?

7 A. Yes, ma'am.

8 Q. You mentioned one more example. I believe you said
9 cryptography; is that right?

10 A. Yes, ma'am.

11 Q. Could you explain briefly, what is cryptography?

12 A. Cryptography is the science of hiding information.

13 Q. Hiding information?

14 A. Hiding information.

15 Q. And was -- can you describe an example of one way that
16 Apple implemented cryptography to implement the FairPlay?

17 A. Cryptography, as a major part that we saw at Apple, is,
18 if you need to hide a piece of information, you need to have
19 a key to hide the information; but then if you hide the
20 information, you need to hide the key, because the key is the
21 one -- is the element that allow you to read the information,
22 which mean that you need to have a key to protect the key,
23 and then you need to have another key to protect the key,
24 which is what I call -- what we call in cryptography, chicken
25 and egg.

1 Who come first? The chicken? No, because it come from
2 an egg. But is it the egg? No. Because it comes from a
3 chicken. And we have this problem in cryptography, because
4 you always need to have a key to protect the key.

5 The thing we did at Apple, we solved the problem with
6 something we called white-box cryptography. In other words,
7 we are able to grab the chicken and egg and to hide the key
8 in front of the hackers because we have -- we have solved the
9 problem.

10 Q. Mr. Farrugia, I think you mentioned white-box
11 cryptography?

12 A. Yes, ma'am.

13 Q. And can you describe briefly how white-box cryptography
14 solved this chicken-and-egg problem?

15 A. The way we -- we solve problem is by making the key so
16 big, so large that a hacker is not able to find the real
17 value of the key. We hide the value of the key in front of
18 the hackers.

19 THE COURT: Let me interrupt just a minute.

20 Did somebody's electronic device just go off?

21 UNIDENTIFIED: Yes, Your Honor. It was completely
22 silenced, and it was an Amber alert that woke the phone. I
23 apologize.

24 THE COURT: I'm going to have the Court Security
25 Officer come and take that device from you.

1 After the trial is over and the jury has been
2 discharged, you can reclaim it from the Court Security
3 Officer.

4 Let's continue.

5 MS. FUKUDA: Thank you, Your Honor.

6 Q. (By Ms. Fukuda) Was the way that Apple implemented that
7 white-box cryptography ever done in commercial industry
8 before?

9 A. No, ma'am.

10 Q. And how did you and your team at Apple come up with the
11 solution?

12 A. We hire mathematical people -- mathematicians with
13 Ph.D., and we work very hard with the team to solve the
14 problem.

15 Q. And how do you know it worked?

16 A. Because we didn't have any hack for the past two
17 years -- two-and-a-half years.

18 Q. Mr. Farrugia, did you and your DRM team at Apple receive
19 any U.S. patents?

20 A. Yes, ma'am.

21 Q. And did you file for additional patents, as well?

22 A. Yes, ma'am.

23 Q. About how many patents and patent applications does your
24 team have?

25 A. More than a hundred.

1 Q. More than a hundred?

2 A. Yes, ma'am.

3 Q. And are you a named inventor on any of those patents and
4 applications?

5 A. Yes, ma'am.

6 Q. And about how many?

7 A. All of them.

8 Q. Mr. Farrugia, have you ever heard of the term usage
9 policies used in the context of the Apple system?

10 A. Yes, ma'am.

11 Q. What are Apple's usage policies?

12 A. The policies that the server need to enforce for the
13 content.

14 Q. Just so I understand you, you said that those are the
15 conditions that the song would need to enforce for the
16 content?

17 A. No. The condition the server needs to enforce.

18 Q. My apologies. Thank you. So usage policies at Apple
19 are the conditions that the server would need to enforce for
20 the content?

21 A. Yes, ma'am.

22 Q. Okay. And by that server on that improved FairPlay
23 system, you're referring to the Apple iTunes server?

24 A. Yes, ma'am.

25 Q. Where are those usage policies stored at Apple?

1 A. On Apple iTunes server.

2 Q. Are those usage policies in the Apple server ever
3 downloaded to the user device?

4 A. No, ma'am.

5 Q. And is there any benefit in keeping the usage policies
6 up at the Apple server and not downloading them to the user
7 device?

8 A. It's a major benefit, ma'am.

9 Q. How so?

10 A. Because if for any reason Apple want to change
11 something, it's easy to change on the server side, rather
12 than to have an update of iTunes that's going to touch
13 million of people.

14 Q. Just so I understand, so when Apple wants to update its
15 policies, what does Apple do?

16 A. We change the policy on the server side, and easy
17 because instead of asking million of users to have an update
18 on the client.

19 Q. So you don't have to update millions of client-side user
20 devices?

21 A. Yes, ma'am.

22 Q. Have you ever heard of a Sinf, S-i-n-f?

23 A. Yes, ma'am.

24 Q. What is a Sinf?

25 A. The Sinf stands for security information.

1 Q. And how is that used in the Apple FairPlay?

2 A. When you download, let's say a song, from the Akamai,
3 the iTunes, the client, get the -- the Sinf from iTunes
4 server and hide inside the file, the song, the Sinf.

5 Q. Are Apple's usage policies contained within that Sinf?

6 A. No, ma'am.

7 THE COURT: Counsel, approach the bench.

8 (Bench conference.)

9 THE COURT: Ms. Fukuda, I assumed, obviously wrong,
10 that this was going to be a short cross. This jury needs a
11 break. How much longer do you think --

12 MS. FUKUDA: This would be a good time to break.

13 THE COURT: How much more do you think you have?

14 MS. FUKUDA: Maybe about 15 minutes.

15 THE COURT: Okay. I assume you're going to have
16 redirect, Mr. Caldwell?

17 MR. CALDWELL: I think so.

18 MS. FUKUDA: And, Your Honor, just so -- what we
19 had agreed to is that we were going to put Mr. Farrugia up in
20 our case, so we agreed that Mr. Caldwell could call him
21 adverse and we could, on my cross, do direct of Mr. Farrugia,
22 as well, since he's --

23 THE COURT: I understand what's going on.

24 MS. FUKUDA: Okay.

25 THE COURT: I'm just trying to -- trying to manage

1 the time with the jury.

2 MS. FUKUDA: Understood, Your Honor.

3 THE COURT: All right. We'll take a recess now.

4 MS. FUKUDA: Thank you.

5 (Bench conference concluded.)

6 THE COURT: Ladies and Gentlemen, we're going to
7 take this opportunity to take a short recess. You may leave
8 your notebooks in your chairs. Don't discuss anything about
9 the case, and we're going to recess for approximately 10
10 minutes. We'll have you back in here and continue with
11 Defendant's cross-examination. You're excused at this time.

12 COURT SECURITY OFFICER: All rise for the jury.

13 THE COURT: All right. The Court stands in recess
14 for approximately 10 minutes.

15 (Recess.)

16 COURT SECURITY OFFICER: All rise.

17 THE COURT: Be seated, please.

18 All right. Ms. Fukuda, you may return to the
19 podium.

20 Let's bring in the jury, please.

21 COURT SECURITY OFFICER: All rise for the jury.

22 Your Honor, it will be just a moment.

23 THE COURT: All right.

24 (Jury in.)

25 THE COURT: Please be seated.

1 All right. Counsel, you may continue.

2 MS. FUKUDA: Thank you, Your Honor.

3 Q. (By Ms. Fukuda) Mr. Farrugia, you remember during the
4 time when Mr. Caldwell was asking you questions today, he
5 asked you a few questions about Apple's payment process?

6 A. Yes, ma'am.

7 Q. Mr. Farrugia, are you involved in designing the --
8 Apple's payment process regarding the iTunes Store?

9 A. No, ma'am.

10 Q. And are you the most knowledgeable person at Apple about
11 the iTunes payment process?

12 A. No, ma'am.

13 Q. Does your group do anything with the Apple payment
14 process?

15 A. No, ma'am.

16 Q. Do you know whose group deals with that at Apple?

17 A. Yes, ma'am, Mr. Payam Mirrashidi.

18 Q. Mr. Payam Mirrashidi?

19 A. Mirrashidi, sorry.

20 Q. Thank you. And, Mr. Farrugia, you also testi -- you
21 remember testifying about some depositions that you had given
22 in -- before. Do you remember that?

23 A. Yes, ma'am.

24 Q. And there were some discrepancies between whether it was
25 one previous deposition before this case or if there were

1 five others. Do you recall that line of questioning?

2 A. Yes, ma'am.

3 Q. When your deposition was being taken in this case and
4 you were asked how many prior depositions have you done, you
5 had testified one; is that right?

6 A. Yes, ma'am.

7 Q. What were you thinking of when you testified and said
8 that was one?

9 A. At Apple.

10 Q. You had done --

11 A. One with Apple.

12 Q. So at the time of your deposition in this case, you had
13 done one previous deposition at Apple?

14 A. Yes, ma'am.

15 Q. And you remember Mr. Caldwell then showed you a prior
16 case in 2010. Was it that deposition that -- in which --
17 that you were referring to as the one at Apple?

18 A. Yes, ma'am.

19 Q. And during that deposition, when you were asked how many
20 previous depositions you had done, I believe you had
21 testified: About five?

22 A. Yes, ma'am.

23 Q. Okay. Were any of those five depositions at Apple?

24 A. No, ma'am.

25 Q. Mr. Farrugia, I -- you were also asked by Mr. Caldwell

1 about the time between when you left Gemplus and when you
2 arrived at Apple. You recall that?

3 A. Yes, ma'am.

4 Q. You went to work at JetEye after you left Gemplus?

5 A. Yes, ma'am.

6 Q. And what's JetEye?

7 A. It was a startup company. A startup --

8 Q. Startup company?

9 A. -- company.

10 Q. And were you employed by JetEye?

11 A. No, ma'am.

12 Q. What were you doing for JetEye?

13 A. I was volunteering for a friend.

14 Q. Okay. Were you being paid for that?

15 A. No, ma'am.

16 Q. And how long did you work -- help your friend with
17 JetEye?

18 A. Roughly a year and a half.

19 Q. A year and a half. And what happened -- after JetEye,
20 you went to work for Young Generation?

21 A. Yes, ma'am.

22 Q. And what was Young Generation?

23 A. It was a company doing application using this mobile
24 phone.

25 Q. And were you employed by Young Generation?

1 A. No, ma'am.

2 Q. What were you doing for Young Generation?

3 A. I was volunteering for another friend.

4 Q. You were volunteering for a friend again?

5 A. Yes, ma'am.

6 Q. And were you paid for your work at Young Generation?

7 A. No, ma'am.

8 Q. How long were you with Young Generation?

9 A. Until 2005.

10 Q. Until 2005. And what did you do after Young Generation?

11 A. Then I went to Apple.

12 Q. Thank you. Mr. Farrugia, do you care about other
13 people's patent rights?

14 A. Yes, ma'am.

15 Q. And do you care about this case?

16 A. Yes, ma'am.

17 Q. Is this an important case to Apple?

18 A. Yes, ma'am.

19 Q. Now, do you personally review third-party patents when
20 you're designing a system?

21 A. No, ma'am.

22 Q. Why not?

23 A. We have legal department and we work with the legal
24 department and they review the patent. And doing the design
25 and the implementation, we work with department.

1 Q. And what's your primary responsibility at Apple?

2 A. To develop products.

3 Q. Mr. Farrugia, to make Apple's FairPlay, what it is
4 today, what did you and your team at Apple have to do?

5 A. A lot of work, a lot of A plus plus people we hire.
6 And -- and a lot of work.

7 Q. Can you give us an estimate -- can you give us some feel
8 for the past 10 years when you were at Apple how much work
9 your team put into developing FairPlay into what it is today?

10 A. We -- we don't count. We work from five days a week,
11 plus weekends. I can tell you how many hours I put on the
12 project if you want, but it's -- we don't count -- it's a
13 lot. It's a lot.

14 Q. About how many hours a day did you work over the past
15 eight years?

16 A. Over the past eight years, I work from 5:30 in the
17 morning to 10:00 p.m. every day, plus 15 hours on the
18 weekend.

19 Q. And did your team put in similar hours?

20 A. I -- yes.

21 Q. Thank you, Mr. Farrugia.

22 MS. FUKUDA: I pass the witness.

23 THE COURT: Redirect?

24 MR. CALDWELL: Thank you, Your Honor.

25 REDIRECT EXAMINATION

1 BY MR. CALDWELL:

2 Q. Mr. Farrugia, when I was talking to you earlier, we
3 didn't just talk about the number of your depositions, did
4 we?

5 A. Could you -- sorry, I don't understand the question.

6 Q. We talked about more than your number of depositions,
7 correct?

8 A. Yes, sir.

9 Q. One of the things we talked about was that, although you
10 told me you had not very much digital content security, when
11 you wanted a job, you told Apple you were an expert in
12 digital content security, correct?

13 A. Yes, sir.

14 Q. Now, Mr. Farrugia, about three minutes ago, you were
15 asked a question about how you answered me in the deposition
16 when I questioned you on -- if you'd had a prior -- any prior
17 depositions. Do you remember that?

18 A. Yes, sir.

19 Q. Did I ask you if you'd had prior depositions at Apple?

20 A. No, sir.

21 Q. You just misunderstood the question?

22 A. Yes, sir.

23 Q. So if we were to go back --

24 MR. CALDWELL: I'm sorry, strike that.

25 Q. (By Mr. Caldwell) If you were to think about the

1 deposition I was taking, you -- you meant that you'd had one
2 prior deposition, and that was in December 8th of 2010,
3 correct?

4 A. Yes, sir.

5 Q. So if we were to go back to your December 8, 2010
6 deposition, at that point, you had no prior Apple
7 depositions, correct?

8 A. Yes, sir.

9 Q. That's correct?

10 A. Yes, sir.

11 MR. CALDWELL: Mr. Mortensen, do you have the
12 December 8th deposition on Page 8? Can we pull up Lines 21
13 through 25 from the December 8th, 2010 deposition?

14 Q. (By Mr. Caldwell) Mr. Farrugia, even by December 8th of
15 2010, you had already had at least one other Apple
16 deposition, correct?

17 A. Yes, sir.

18 Q. Even if you misunderstood my question in my deposition
19 to be talking about prior Apple depositions, the answer you
20 told me was wrong, right?

21 A. Sir? I don't understand the question.

22 Q. Okay. Even if you misunderstood my question last July
23 to be asking how many prior Apple depositions you'd had, the
24 answer you told me was not the truth, correct?

25 A. No, sir.

1 Q. You've had more than one Apple deposition prior to the
2 one I took, correct?

3 A. No, sir.

4 Q. So in 2010 -- in 2010, that's what we're looking at on
5 the screen, were you not telling the truth that you'd already
6 had a previous Apple deposition by that time?

7 A. No, sir.

8 Q. Did you have an Apple deposition before December 2010 or
9 not?

10 A. No, sir.

11 Q. Do you understand that what's on the screen is what you
12 said under oath in December of 2010?

13 A. Yes, sir.

14 Q. Did you make a mistake then?

15 A. This is what the document says.

16 Q. Mr. Farrugia, in December 2010, you were asked: Have
17 you had your deposition taken before?

18 And you answered: Yes.

19 Correct?

20 A. Yes, sir.

21 Q. You were asked how many times, correct?

22 A. Yes, sir.

23 Q. And by December 8, 2010, you answered: With Apple,
24 once.

25 A. Yes, sir.

1 Q. Correct? Were you telling the truth?

2 A. Yes, sir.

3 Q. So you had a deposition with Apple prior to April

4 2000 --

5 MR. CALDWELL: I'm sorry, strike that.

6 Q. (By Mr. Caldwell) You had a deposition with Apple prior

7 to December 2010?

8 A. No, sir.

9 Q. How is that true, sir? How is the -- the deposition,
10 what you said under oath in December 2010 true?

11 A. That was the deposition.

12 Q. Mr. Farrugia, that's not the deposition I took. That
13 was your prior Apple one.

14 A. Yeah. I'm confused by the question. Sorry.

15 Q. Okay. Mr. Farrugia, you talked about the concept of
16 code protection and white-box cryptography for quite a while.

17 Do you recall that?

18 A. Yes, sir.

19 Q. Does any of that have anything to do with this case?

20 A. Yes, sir.

21 Q. Really? Are you going to explain to the jury how any of
22 that affects the value of infringement or whether Apple
23 infringes?

24 A. I cannot answer this question, sir.

25 Q. And during your direct, you never once hinted that Apple

1 does not infringe, correct?

2 A. I don't know, sir.

3 Q. Do you know how to read computer code?

4 A. Yes, sir.

5 Q. Do you write code?

6 A. No, sir.

7 Q. And you're not here to tell the jury that Apple does not
8 infringe, are you?

9 A. I cannot answer these questions.

10 Q. Is it true that you brought your digital content
11 security experience from Gemplus to Apple, sir?

12 A. No, sir.

13 Q. In your direct, do you recall talking about something I
14 think you referred to as a -- I don't mean to misquote you,
15 but something like a usage restriction or something, that
16 that's a server?

17 A. Usage conditions.

18 Q. Usage conditions.

19 A. Actually, conditions.

20 Q. There are also rules that are sent to the client device
21 with content, correct?

22 A. No, sir.

23 Q. There are not?

24 A. No, sir.

25 Q. Is 30 days to watch a movie a usage rule?

1 A. It's not sent to the client, sir.

2 Q. So the amount of time left to watch a rental is not sent
3 to an iPhone?

4 A. The duration, yes, sir, but it's the validity of the
5 keys.

6 Q. Mr. Farrugia, is the duration of time left to watch a
7 movie rental sent to the iPhone?

8 A. The numbers, yes.

9 Q. You weren't meaning to imply that that's only kept at
10 the server, correct?

11 A. It -- it is kept on the server, sir.

12 Q. I'm not saying it's not kept on the server. I'm saying
13 you were not meaning to imply that it's only kept on the
14 server?

15 A. I don't know the question then.

16 Q. The duration isn't only on the server, is it, sir?

17 A. Yes, sir.

18 Q. It goes to the client, correct?

19 A. No, sir. No, sir.

20 Q. The duration of the rental does or does not go to the
21 client?

22 A. It doesn't.

23 Q. Mr. Farrugia, you're not going to walk through any code
24 to show your argument to the jury, are you?

25 A. I don't write code, sir.

1 Q. Do you recall showing some slides to the jury?

2 A. Yes, sir.

3 MR. CALDWELL: Mr. Mortensen, will you pull up
4 Slide 138? Thank you.

5 Q. (By Mr. Caldwell) Are you familiar with all the
6 elements that are shown on this slide?

7 A. Yes, sir.

8 Q. Mr. Farrugia, the thing you've labeled No. 1, in
9 actuality is called a buy product request, isn't it?

10 A. I don't know, sir. It's a request for -- for FairPlay's
11 request.

12 Q. You do not disagree with me that the code shows it as a
13 buy product request?

14 A. I don't know, sir.

15 Q. Now, Mr. Farrugia, the information sent back as Element
16 No. 2 is referred to as a purchase success, isn't it?

17 A. I'm speaking for FairPlay, no, sir.

18 Q. It's not?

19 A. Not as far as FairPlay is concerned.

20 Q. I'm just asking if the message is called a purchase
21 success or not.

22 A. Sir, I'm not specialist of the server. I'm specialist
23 of FairPlay.

24 Q. So those are parts of this slide that you presented that
25 you don't actually know?

1 A. I -- I don't understand the question, then, sir.

2 Q. Okay. I'm happy to move on.

3 And, sir, you've also demonstrated on the slide that
4 protected content in Step 4 comes from a third-party content
5 delivery network, correct?

6 A. Yes, sir.

7 Q. But it's really true that in -- when I originally talked
8 to you today, you agreed with me that that content comes from
9 Apple and is delivered by Akamai, correct?

10 A. Yes, sir.

11 Q. Which looks -- if I might --

12 MR. CALDWELL: Thank you.

13 Q. (By Mr. Caldwell) More like that, correct, Mr.
14 Farrugia?

15 A. Yes, sir.

16 Q. I believe you agreed with me earlier that FairPlay
17 specifies a condition for accessing the content, correct?

18 A. No, sir.

19 Q. Mr. Farrugia, you testified that you were in California
20 when you were with Gemplus, correct?

21 A. Yes, sir.

22 Q. You worked with Mark Lassus, didn't you?

23 A. He was the CEO of the company.

24 Q. And you worked with him, didn't you?

25 A. Yes, sir.

1 Q. You worked with Steven Landau, didn't you?

2 A. No, sir.

3 Q. You had a connection with Steven Landau, correct?

4 A. Yes, sir.

5 Q. And you worked with Jean-Pierre Gloton, correct?

6 A. Yes, sir.

7 MR. CALDWELL: I'll pass the witness.

8 THE COURT: Further cross-examination.

9 RECROSS-EXAMINATION

10 BY MS. FUKUDA:

11 Q. Mr. Farrugia, in that earlier deposition clip from your
12 December 2010 deposition, when you were asked about prior
13 Apple depositions, and you said, with Apple once. Do you
14 remember that testimony?

15 A. Yes, sir -- yes, ma'am, sorry.

16 Q. It's okay, Mr. Farrugia.

17 When you said with Apple once, which deposition --
18 which -- that once, which deposition were you talking about?

19 A. I was referring to the deposition I was deposing.

20 Q. You were thinking about the actual December 2010
21 deposition and counting that as once?

22 A. Yes, ma'am.

23 Q. Thank you, Mr. Farrugia.

24 MS. FUKUDA: No further questions, Your Honor.

25 THE COURT: Further direct, Mr. Caldwell?

1 MR. CALDWELL: No further questions, sir.

2 THE COURT: All right. Mr. Farrugia, you may step
3 down.

4 MS. FUKUDA: Your Honor, Apple requests that Mr.
5 Farrugia be released from this trial for further testimony.

6 THE COURT: Any objection?

7 MR. CALDWELL: No objection.

8 THE COURT: All right. You're not only excused
9 from the witness stand, you're released. You may stay. You
10 may leave. It's up to you.

11 THE WITNESS: Thank you, Your Honor.

12 MS. FUKUDA: Thank you, Your Honor.

13 THE COURT: All right. Plaintiff, call your next
14 witness.

15 MR. WARD: Your Honor, the Plaintiff rests.

16 THE COURT: All right. Is the Defendant prepared
17 to call its first witness?

18 MR. POST: We are, Your Honor.

19 THE COURT: Proceed.

20 MR. POST: Your Honor, Apple calls Mr. Payam
21 Mirrashidi.

22 THE COURT: All right. If you'll come forward and
23 be sworn.

24 (Witness sworn.)

25 THE COURT: Please have a seat on the witness

1 stand.

2 MR. POST: May it please the Court.

3 THE COURT: You may proceed, Counsel.

4 MR. POST: Thank you, Your Honor.

5 PAYAM MIRRASHIDI, DEFENDANT'S WITNESS, SWORN

6 DIRECT EXAMINATION

7 BY MR. POST:

8 Q. Good afternoon, Mr. Mirrashidi.

9 A. Good afternoon.

10 Q. Mr. Mirrashidi, can you please introduce yourself to the
11 jury?

12 A. My name is Payam Mirrashidi.

13 Q. Mr. Mirrashidi, you want to scoot forward a little bit
14 so I can see you? Perfect. Thank you.

15 A. You're welcome.

16 Q. And how old are you, sir?

17 A. I'm 44 years old.

18 Q. And where do you live?

19 A. In Los Altos, California.

20 Q. Mr. Mirrashidi, can you tell us whether you have a
21 family?

22 A. I do. I have a wife and two girls, 8 and 11.

23 Q. And are you currently employed?

24 A. Yes.

25 Q. And by whom?

1 A. Apple.

2 Q. How long have you been employed by Apple?

3 A. About 12-and-a-half years.

4 Q. And when did you start at Apple?

5 A. I started July 2002.

6 Q. Okay. Generally speaking, what kind of work have you
7 done during your time at Apple?

8 A. I've worked in the iTunes Store, App Store, iBook Store.

9 Q. And what type of work within the iTunes Store were you
10 doing? Were you working on software?

11 A. Yes, I was trained as a software engineer.

12 Q. And what's your current position?

13 A. Senior director of engineering.

14 Q. About how many people do you oversee as a senior
15 director of engineering?

16 A. About 200.

17 Q. And is that a -- just in the U.S.?

18 A. No, I have folks in Vancouver, British Columbia, and
19 London.

20 Q. Did you attend college, sir?

21 A. Yes, sir.

22 Q. And where did you go?

23 A. I went to University of California at Berkeley.

24 Q. Did you have a major when you were at Berkeley?

25 A. I studied physics there.

1 Q. How did you get interested in physics?

2 A. I started in a summer program at UC Santa Barbara, a
3 young scholar's program where I studied physics and math when
4 I was a junior in high school.

5 Q. And did you find physics to be interesting?

6 A. I did. When I came back for my senior in high school, I
7 went to the local community college and started taking night
8 classes in physics and math and continued the education
9 there.

10 Q. And in addition to taking courses in physics in college,
11 did you have any jobs?

12 A. I had two jobs when I was at Berkeley. My first job was
13 a sound engineer doing kind of concerts for the local student
14 union, and my second job was in the plasma theory and
15 simulation group. We studied computer chip processing and
16 nuclear fusion.

17 Q. And when did you graduate from Berkeley, sir?

18 A. 1992.

19 Q. Did you attend grad school?

20 A. Yes, San Francisco State University.

21 Q. And what did you study there?

22 A. Computer science.

23 Q. So did you start working at Apple after grad school?

24 A. No. I worked at a couple of start-ups. I worked at Sun
25 Microsystems before I joined Apple.

1 Q. Okay. And so when, again, did you start at Apple?

2 A. 2002.

3 Q. Okay. And what -- what brought you there?

4 A. It was interesting. When I joined Apple, I didn't know
5 what I was going to work on when they interviewed me. And I
6 had another job offer at the time, and it was a company
7 called Inktomi, a little more money, a little more stock. My
8 brains told me to go to Inktomi. My heart told me to go to
9 Apple. In the end, I decided to go with Apple.

10 Q. So did you know what you would be working on at Apple
11 when you joined in 2002?

12 A. No. When I interviewed there, I did not know. My old
13 office mate from Sun Microsystems was in the group, and, you
14 know, he kind of hinted at some things; but I didn't know it
15 was going to be a music store.

16 Q. So you had no idea you'd be working on -- on the iTunes
17 Store?

18 A. No, I actually thought it was going to be some kind of
19 video rental site. That was my guess.

20 Q. So when did the iTunes project get started at Apple?

21 A. Kind of surprising to me that when I took the job, it
22 wasn't green-lighted as a project. It happened a couple
23 weeks after I joined in July of 2002.

24 Q. Okay. So at that time, about how many people were
25 working on the project with you?

1 A. We had about seven engineers on the servers team.

2 Q. Was Mr. Muller one of those individuals?

3 A. Yes, in fact, Mr. Muller interviewed me for the job.

4 Q. Okay. And how about Mr. Augustin Farrugia, was he a
5 member of the iTunes team at that time?

6 A. He was not.

7 Q. Did he -- there come a time when he did join the iTunes
8 team?

9 A. I don't remember the exact time, but it was a couple
10 years later.

11 Q. And what was your impression of Mr. Farrugia when you
12 first met him?

13 A. He was -- he was incredibly smart. You know, he's
14 always the smartest guy in the room, and he's someone who
15 really cares about making sure the people get the credit for
16 what they did.

17 Q. Do you respect him?

18 A. Absolutely.

19 Q. And what -- what was Mr. Farrugia's role when he joined
20 Apple, if you recall?

21 A. He was in charge of the FairPlay group.

22 Q. Was he a hard worker?

23 A. Yes.

24 Q. And since you've known Mr. Farrugia, have you ever heard
25 him mention the name Smartflash?

1 A. Just in the context of this trial.

2 Q. What about the name Patrick Racz?

3 A. Just in the context of this trial.

4 Q. Okay. So when you joined the iTunes team, what -- what
5 were you responsible for?

6 A. I was a senior software engineer. I was responsible for
7 what we call the store fronts, what the customers see when
8 they're looking at items, search, and the account and
9 commerce flows.

10 Q. Were you working long hours while developing the iTunes
11 Store?

12 A. Yes. The story I like to tell about my first wedding
13 anniversary, which was a week before the launch of the store,
14 and I was working so hard that I had to sheepishly call my
15 wife to have her come down to have dinner with me so we could
16 celebrate wedding anniversary.

17 She was pregnant, but we had our first wedding
18 anniversary in a conference room at Apple with some cold
19 Chinese food, but that just goes to show how hard we were
20 working then.

21 Q. So when was the iTunes Store first launched to the
22 public?

23 A. April 28th, 2003.

24 Q. And did you get a chance to take a -- a break and take
25 your wife on vacation when the -- when the store launched?

1 A. That's what we were expecting to happen, but instead, it
2 was more like a rocket ship taking off. It was the
3 beginning, not the end.

4 Q. And since that time, have you spent your entire career
5 at Apple working on the iTunes Store, sir?

6 A. Yes.

7 Q. What types of things have you been working on within the
8 iTunes Store during that time?

9 A. We spent a lot of time on scalability, a lot of time on
10 improving the customer experience, and security.

11 Q. And what do you mean by scalability?

12 A. Scalability, what I mean is -- you know, when we
13 started, we had a couple million customers. And now we have
14 hundreds of millions of customers. So making our systems
15 work around the globe for those many customers takes a lot of
16 effort.

17 Q. And you mentioned security improvements. What -- what
18 sort of improvements were you working on?

19 A. We're very concerned about our customers' credit card
20 security, making sure that their privacy is not violated. So
21 we spent a lot of time, you know, fighting credit card fraud
22 and things like that.

23 Q. Is the iTunes Store different than the App Store?

24 A. The underlying systems are all the same. They sell
25 different content. One sells music. One sells apps. But

1 the underlying systems are all the same.

2 Q. Do you consider them both to be part of iTunes?

3 A. I do.

4 Q. Now, Mr. Mirrashidi, what kinds of changes has the
5 iTunes Store undergone from launch to today?

6 A. Well, we've added a lot of new content types. We added
7 music from the beginning, movies, TV shows, podcasts, apps.
8 In apps, we've kind of expanded what we sell, and we improved
9 the customer experience.

10 Q. Has the way content is purchased and downloaded changed
11 over time?

12 A. No. It's pretty much the same as it was back in 2002.

13 Q. And what about the -- the major kind of pieces or
14 components of iTunes? Have those changed?

15 A. We just have a lot more of everything now.

16 Q. Mr. Mirrashidi, have you prepared any demonstratives to
17 assist with your testimony today?

18 A. I have.

19 Q. Mr. Mirrashidi, we've pulled up Slide 2. Can you
20 explain what this slide shows about the iTunes ecosystem?

21 A. So what we see here on the screen is the three major
22 parts of the iTunes ecosystem.

23 On the bottom, we have an iPad and an iPhone. So this
24 is the device that a customer would use to connect to the
25 iTunes Store.

1 In the upper right, we have the servers that my team's
2 responsible for. So, you know, the store, finance, servers
3 for accounts, security, and metadata.

4 And in the top left, we have a representation of a
5 content delivery network that we use called Akamai.

6 Q. Mr. Mirrashidi, what's a content delivery network?

7 A. Content delivery network is a service that allows
8 downloads for our customers.

9 Q. And you mentioned Akamai. Is Akamai a company that's
10 related to Apple?

11 A. No.

12 Q. Why does Apple use Akamai to assist in delivering
13 content to users?

14 A. Akamai has what are called points of presence, basically
15 servers, all around the globe and certainly all around the
16 United States.

17 And it turns out that it's much faster to do a download
18 from a server that's close to you than a server that's far
19 away. Apple's in two data centers. You know, we're moving
20 to three. But Akamai is in tens of thousands of data centers
21 around the globe.

22 Q. So when a user downloads a song, does Apple send
23 anything directly to that user?

24 A. Yes. We send some security information; we send some
25 metadata and kind of some information about the download.

1 Q. Now, what do you mean by metadata?

2 A. By metadata -- so if you're buying a song, metadata
3 would be the artist's name, the song name, the album, like
4 Elvis Presley, those kinds of things.

5 Q. Okay. So if someone had never before used the iTunes
6 Store and wanted to buy some content, like a song, what's the
7 first thing that she would have to do?

8 A. Well, the first thing you got to do is create an
9 account.

10 Q. And why is that the first step?

11 A. The first step is -- we use that to collect some
12 information about the customer, including their email address
13 and password and also their billing information.

14 Q. Mr. Mirrashidi, can you walk us through how a user would
15 sign up for an iTunes account, using your demonstratives?

16 A. Sure.

17 So this is the front page of the iTunes Store, so -- a
18 few days ago. And here we see some editorially picked
19 content. Those are the -- kind of the images that we see
20 across the screen and some albums below.

21 We can also see some -- there's a little button in the
22 upper right, which is kind of where a customer gets their
23 wish list. This is one of the ways that a customer can get
24 in and sign into the store or create an account. It's
25 much -- there are multiple ways to do this.

1 So in this way, a customer would come in, click sign in,
2 and they have the choice of using an existing account or
3 creating a new one. And what I'm going to go through today
4 is how they would create a new one.

5 Q. So if a user wanted to create a new account with iTunes,
6 what would they do if they saw this screen?

7 A. So they would create Apple ID. They would click on
8 create Apple ID.

9 Q. And what would happen next, sir?

10 A. So the next thing that they see is the terms and
11 conditions of the iTunes Store. It's kind of the legal
12 document of creating an account they have to agree to.
13 So they scroll all the way to the bottom, they click agree
14 twice and say that they've read and they agree to the terms,
15 and then they come to the first screen where they have to
16 enter information.

17 On this screen, we ask the customer for their email
18 address, the password that they want to use. We ask them
19 some questions in case they forget their password. We ask
20 them for their birthday in case they forget their password,
21 and also whether they want to get emails from us.

22 Q. And what happens after they enter that information?

23 A. So after they enter it all and send, they go on to the
24 next button that they have to click on.

25 Q. And what happens next?

1 A. And then they come to the next screen, which is where we
2 collect the customer's billing information. On here, they
3 can give us a credit card number; or if they have maybe a
4 gift card, they can enter the gift card number on this screen
5 as well.

6 Q. And after they've entered that information into the
7 screen, what happens next?

8 A. What happens next is that the software running on the
9 iPad takes the information that they -- we just collected
10 from the customer and adds to that what we see on the upper
11 right of this picture, which is it says GUID, MID, or GUID is
12 how we pronounce G-U-I-D.

13 And you can think of a GUID as a -- kind of like a
14 vehicle identify -- vehicle identification number for your
15 car. A GUID is for an iPad. So it's the unique identifier
16 for that device.

17 Q. Does every Apple device have a GUID?

18 A. Yes.

19 Q. And is that the only kind of device identifier that
20 Apple uses?

21 A. We use another one that you can see on here, which is
22 also MID.

23 Q. And what does MID stand for, sir?

24 A. Machine ID.

25 Q. And is that something that iTunes has always had as a

1 feature?

2 A. No. That's a more recent addition.

3 Q. And why was the MID included?

4 A. We were seeing some hacks on our store where people were
5 spoofing or faking GUIDs, and Mr. Farrugia's team came up
6 with a new technology for us that we deployed to combat that
7 fraud.

8 Q. Is fraud a big concern for the iTunes team at Apple?

9 A. It is. It's a huge concern. We want to make sure that
10 our customers' credit cards are safe.

11 Q. So after this information is collected, what happens
12 next during the account sign-up portion of iTunes?

13 A. So all that information is -- the user entered
14 information, plus the kind of machine or device information
15 is combined, and the software creates what we call a create
16 account request.

17 Q. And what happens with that account -- create account
18 request?

19 A. That create account request is then sent to our servers
20 inside of Apple's data centers where we inspect what was
21 sent.

22 Q. So when that -- when that information arrives at the
23 servers, what happens next?

24 A. We take that information, and we create some rows in our
25 databases with that information. We create an account in

1 Apple's account system, which is called directory services,
2 and we take the GUID and MID and all that information, and we
3 put it in various security tables.

4 Q. So once that information is put into that new row,
5 what's the next step in the account sign-up process?

6 A. Well, we return back to the iPad software, which is --
7 we -- what's called the DSID, which is the directory services
8 identifier for that customer's account. We also send back
9 some security information, which we use later for purchasing.

10 Q. So once that information, including the DSID, is sent
11 back to the user's device, and the information that the user
12 has submitted is stored on the server, is account setup
13 complete?

14 A. Yes.

15 Q. So if our user, who has now created an Apple iTunes
16 account, wants to buy -- search for and buy a song, how would
17 they go about doing that on their iPad?

18 A. So if we go back to the slide here, in the upper
19 right-hand corner of the screen, we have a search field,
20 search text field, where a customer can enter in a search.

21 So they'll click in there --

22 Q. So I -- I have one question before we do that, sir.

23 A. Oh, sure.

24 Q. I see one of the items under new music has a red E
25 symbol next to it. Can you tell me what that is?

1 A. Yes.

2 So this red E identifies -- so this is the sound track
3 to a movie called The Last Five Years, and that red E
4 identifies this is an explicit album.

5 Q. So if I have young children and don't want them to be
6 able to buy explicit content or something with a rating that
7 exceeds their age, is there a way I can do that in iTunes?

8 A. Yes, there is.

9 Q. And how is that, sir?

10 A. We have a system called parental controls that allows
11 parents to set ratings for their kids' -- children's devices.

12 Q. And are there any restrictions on iOS devices, like an
13 iPad, that would restrict access to content that's already
14 downloaded to the device?

15 A. Yes.

16 Q. And what is that?

17 A. So if a parent comes in and says that they don't want
18 to, for example, allow R-rated movies to be played on this
19 iPad, those R-rated movies that have already been downloaded
20 onto that iPad, they would -- they would disappear once the
21 parent set that rating, and the child would not be able to
22 see those R-rated movies.

23 Q. Does iTunes use something called content ratings in its
24 parental control feature?

25 A. Yes, we do.

1 Q. And what information, if any, about -- do content
2 ratings convey about whether or how many times a piece of
3 content has been accessed?

4 A. None.

5 Q. And along the same lines, what information does a
6 content rating provide about the use status of a particular
7 movie?

8 A. None.

9 Q. So we -- we talked about how a user would go about
10 searching for and downloading a song. You mentioned the
11 search field; is that right?

12 A. I did.

13 Q. So if our user wanted to download the song Heartbreak
14 Hotel by Elvis Presley, how would they go about doing that?

15 A. So the customer would come here, click in the search
16 text field, they would type in Heartbreak Hotel, hit return,
17 and our search software would return them songs and albums
18 that -- that have that content that they were looking for.

19 Q. And so once this information is on the screen, how would
20 the user go about picking one of those songs?

21 A. So in this example, we've highlighted in red the
22 Essential Elvis Presley album. The customer would click on
23 that, and then they would come to the album page. And if you
24 see Heartbreak Hotel, it's highlighted in blue, which is what
25 the customer had searched for.

1 Q. So if the user wanted to download that album, how would
2 they do that?

3 A. If the customer wants to download that album, they
4 would -- there's a button with a price all the way on the
5 right, 1.29. So a customer would click on that, and it would
6 say buy song, and then they would click it again, and then
7 the download would proceed.

8 Q. So when the user hits that buy song button, what happens
9 on the user's device?

10 A. So, again, kind of like we did with the create account,
11 there's going to be this buy request that's going to be
12 created.

13 Q. And what is a buy request?

14 A. Buy request is a -- several pieces of information that
15 the iPad software is going to convey to our servers about the
16 customer's intention to download something.

17 Q. So you described a DSID earlier. What is a DSID again?

18 A. The DSID is the identifier for the customer's account.

19 Q. Is the DSID used to pay for content like a song?

20 A. No.

21 Q. And what is used to pay for content like a song?

22 A. The customer's billing info, which we've stored on our
23 servers.

24 Q. And I believe you mentioned the GUID and the MID
25 earlier. Is that the same information that's used in the

1 create account request?

2 A. Yes.

3 Q. And those are used for fraud protection?

4 A. Yes.

5 Q. And what's the next item, the secure token?

6 A. Secure token is, when we created the account, we sent
7 some tokens back to allow purchase authorization.

8 Q. And what about Adam ID? What's that, sir?

9 A. In this case, the Adam ID for Heartbreak Hotel is
10 401928. It's the identifier in our database about what song
11 the customer's trying to purchase.

12 Q. And the last item I see, Mr. Mirrashidi, is pricing
13 information. What is that?

14 A. That's the price that the customer saw when they clicked
15 the buy button.

16 Q. And does this pricing information relate to payment for
17 the song in any way?

18 A. It's just the price that the customer saw when they
19 clicked the buy button.

20 Q. So is this buy request sent to the Apple iTunes Store
21 server?

22 A. Yes.

23 Q. And how is that done?

24 A. So we package this information up securely, we transport
25 it over the Internet to our Apple servers; and once we

1 receive it, we open up this package, this buy request, and
2 make sure it hasn't been tampered with in transit, and then
3 we look for the pieces of information that are in there.

4 Q. So when you -- what information are you looking for once
5 that package has been received and unpacked?

6 A. Well, the example here shows that we're looking for the
7 Adam ID, which is, you know, what's the customer trying to
8 buy, and it -- in this example, we see that there's a green
9 check next to the Adam ID 401928.

10 And this is to identify that this is a song that is
11 available for sale for the customer, not -- you know,
12 sometimes we get songs that are not available for sale, so we
13 have to check.

14 Q. And are there any other checks that are performed when
15 the buy request is received?

16 A. Another check that we do is that we check for the
17 customer's DSID, that the GUID that was sent up also is a
18 device that was registered with the customer's account.

19 What we don't want to see is -- what was happening is
20 fraudsters trying to use a GUID that they made up. So we
21 want to make sure that this customer -- that the customer is
22 buying with a device that's theirs.

23 Q. So if Apple's servers determine that the DSID that was
24 received and the GUID matched a particular user, what do they
25 do next?

1 A. So then what we do is we look at whether there is this
2 concept of a buy session is open or not. And if one isn't
3 opened, we open a buy session.

4 Q. And what is this -- what's a session?

5 A. So a session is this concept in the iTunes Store where
6 we package up several downloads by a customer over a period
7 of time so that we're only charging the credit card once.

8 So in the example, session 1 up above, the customer
9 bought Heartbreak Hotel for \$1.29, didn't buy anything else.

10 After 84 hours, we would close the session. We send the
11 information about that -- that download downstream to a
12 system called SAP, and then SAP would settle against the
13 customer's credit card.

14 Q. And is there any other way that a session could close?

15 A. The other way a session could close is whether an amount
16 of dollars has passed.

17 So in the example below, customers bought several items,
18 and once they crossed the \$9.90 threshold, we would close the
19 session, package up all those downloads into one, send them
20 downstream to SAP so that SAP can settle against the
21 customer's credit card.

22 Q. So can you give us a -- show us an example of how a user
23 that might be browsing through the iTunes Store would --
24 would add content to a session?

25 A. Sure.

1 So here, you see a customer comes along, they buy
2 Heartbreak Hotel for \$1.29, and they buy another 99-cent
3 song, another song for \$1.29, and over the next
4 two-and-a-half days, they end up buying about 10 songs here
5 that add up to \$10.41.

6 The moment that \$9.90 threshold is crossed, we close the
7 session, we send it down to SAP, and they settle against the
8 customer's credit card.

9 Q. Are there circumstances, Mr. Mirrashidi, where Apple's
10 servers would not process payment for content?

11 A. Yes.

12 Q. And what would those circumstances be?

13 A. Well, one of the interesting things about the session
14 model is Apple's floating the customer credit. We gave them
15 the song, Heartbreak Hotel, but we didn't charge them for it.

16 In fact, we didn't charge for any of the songs that the
17 customers downloaded here until the session is closed and
18 sent down and the credit card settlement is done. So that
19 credit card settlement could fail.

20 Q. Do -- is there free content in iTunes?

21 A. Yes, there is.

22 Q. And if a user wanted to download a free app, would they
23 still send a buy request to the server?

24 A. Yes.

25 Q. And would that buy request be the same as the buy

1 request for a song like Heartbreak Hotel?

2 A. Essentially the same.

3 Q. So in our example where the user was looking to buy
4 Heartbreak Hotel for \$1.29, how would the Apple servers
5 actually go about making payment for that song?

6 A. Well, the payment happens, as I mentioned, downstream in
7 SAP.

8 Q. Is there any other way that a user might -- is a credit
9 card the only way a user would ultimately pay for a song?

10 A. We also support gift cards.

11 Q. And does that gift card have a name in Apple's servers?

12 A. xCard.

13 Q. And what is xCard?

14 A. xCard is effectively a gift card bank. Customers go
15 down to 7-Eleven; they buy an iTunes gift card; they come and
16 redeem it on the iTunes Store; and we give them the credit,
17 let's say, for \$15 for the value, the denominational amount
18 on that gift card.

19 Q. So if our user had never used xCard, didn't have any
20 xCard credit, and ended up using a credit card to attempt
21 to -- to download Heartbreak Hotel, what would happen if
22 their credit card didn't settle; the process failed? Would
23 they still have the song?

24 A. Yes.

25 Q. And why is that?

1 A. Because the session model is -- is one of credit. So
2 Apple's floating them the credit to download Heartbreak
3 Hotel, and Apple's hoping that the customer's credit card is
4 going to settle at the end of -- when the session closes.

5 Q. So how would a user go about actually going through the
6 download process and receiving a song from the iTunes Store?

7 A. So we went through how the buy request happens earlier.
8 And so this is the download response, if a successful buy
9 goes through, we were able to create the session and add
10 everything, is how that would work.

11 Q. And what does that download response message include?

12 A. It includes three pieces of information that are
13 important. One is the URL to the content being downloaded;
14 second is some security information to authorize that
15 download, and third is the metadata.

16 Q. What is URL?

17 A. URL is short for Uniform Resource Locator. It's
18 basically an address for something on the Internet.

19 Q. And in the case of iTunes content, like a song or a
20 movie, where does that address point to?

21 A. It points to a server on Akamai's network.

22 Q. And would that be the case for any song or movie
23 purchased through iTunes?

24 A. Yes.

25 Q. And where is this -- where does the Apple server send

1 the download response message to?

2 A. The response -- the download response is sent from the
3 iTunes Store servers to the iPad in this case.

4 Q. And once the device receives that download response
5 message, what does it do?

6 A. It open it up, looks -- makes sure it wasn't tampered
7 with. It takes that URL and makes a request to Akamai. And
8 it includes the security information to authorize the
9 download.

10 Q. And what happens next?

11 A. Akamai is going to look at that security information to
12 see if this is an authorized download.

13 Q. And if it is?

14 A. And if it is, Akamai is going to respond with the song
15 or movie that the customer was -- was trying to download.

16 Q. And are there content types within iTunes for which the
17 request and download process works differently?

18 A. No.

19 Q. Are you proud of all your hard work that you spent
20 developing the iTunes Store?

21 A. I certainly am.

22 Q. Mr. Mirrashidi, if -- if an engineer like you were to
23 learn about a patent during the course of your work at Apple,
24 how are you supposed to handle that?

25 A. We have a policy of working with our legal department

1 when we hear of an IP -- intellectual property issue.

2 MR. POST: Mr. Lee, can you pull up Defendant's
3 Exhibit 305?

4 Q. (By Mr. Post) Mr. Mirrashidi, is this the Apple policy
5 that you just referred to?

6 A. Yes.

7 MR. POST: Mr. Lee, can you please turn to Page 10?

8 Q. (By Mr. Post) Mr. Mirrashidi, do you see a section
9 towards the bottom of the page titled Third-Party
10 Intellectual Property?

11 A. Yes.

12 Q. Could you do me a favor and -- and read that section
13 slowly out to the jury?

14 A. Third-party Intellectual Property. It is Apple's policy
15 not to knowingly use the intellectual property of any third
16 party without permission or legal right. If you are told or
17 suspect that Apple may be infringing an intellectual property
18 right, including patents, copyrights, trademarks, or trade
19 secrets owned by a third party, you should contact the legal
20 department.

21 Q. And, Mr. Mirrashidi, do you follow that policy during
22 your work at Apple?

23 A. Yes.

24 MR. POST: Pass the witness, Your Honor.

25 THE COURT: All right. Cross-examination by the

1 Plaintiff?

2 MR. CALDWELL: Thank you, Your Honor.

3 CROSS-EXAMINATION

4 BY MR. CALDWELL:

5 Q. Good afternoon, Mr. Mirrashidi. I'm Brad Caldwell, one
6 of the lawyers for Smartflash. I don't believe we've met.
7 It's nice to meet you.

8 A. Pleasure to meet you.

9 Q. Mr. Mirrashidi, does how hard you work bear at all on
10 whether Apple's system meets the patent claims of
11 Smartflash's patents?

12 A. No.

13 Q. Did you go through the patent claims with the jury?

14 A. No.

15 Q. Do you know if we're going to hear from any other Apple
16 engineers after you in this trial?

17 A. No.

18 Q. You don't know or, no, we won't?

19 A. You won't. Sorry. Excuse me. You will not hear
20 about -- from any other Apple engineers.

21 Q. Your direct testimony was the last chance an Apple
22 engineer had to sit there and tell this jury why Apple
23 doesn't infringe, correct?

24 A. Yes.

25 Q. Do you agree that you use an Apple ID to purchase

1 content from the iTunes Store?

2 A. Yes.

3 Q. And the DSID is a numerical representation of an Apple
4 ID, correct?

5 A. Yes.

6 Q. Every buy request message contains a DSID, a GUID, and
7 an MID, correct?

8 A. Correct.

9 Q. So on the slide you showed with all those little --
10 little music notes that are representing a purchase, every
11 single time one of those purchases was made, there was a
12 DSID, a GUID, and an MID sent, correct?

13 A. Correct.

14 Q. And when the server receives those, the server validates
15 the DSID, GUID, and MID, correct?

16 A. Correct.

17 Q. I believe one of your points was that the server doesn't
18 always process payment at that time, correct?

19 A. Yes.

20 Q. Do Smartflash's patent claims require that the server
21 process the payment or settle the transaction at that time?

22 A. I don't know.

23 Q. Mr. Mirrashidi, you're about two people down or three
24 people down -- three rungs down from Mr. Cook; is that right?

25 A. Yes.

1 Q. You report to Mr. Jeff Robbin still?

2 A. I do.

3 Q. And he reports to Mr. Tim Cook?

4 A. He reports to Mr. Eddy Cue.

5 Q. I'm sorry. He reports to Mr. Eddy Cue, and Mr. Cue
6 reports to Mr. Tim Cook; is that correct?

7 A. That's correct.

8 Q. Thank you. I'm sorry for that misstatement.

9 Would you agree that Apple has lots of smart people and
10 engineers.

11 A. I'd like to think so.

12 Q. Was it that way when you started in 2002?

13 A. Yes.

14 Q. Was the company hard at work trying to build good
15 products that would make lots of money for Apple's
16 shareholders at that time?

17 A. Yes.

18 Q. Yet how long was it after you started in 2002 before
19 Apple had a handheld multi-media terminal where you could
20 purchase and download content directly to the device?

21 A. I'm sorry, I don't understand your question.

22 Q. Sir, how many years after you started was it before any
23 of the accused products were on the market?

24 A. Are you asking when the iTunes Store shipped after I
25 joined Apple?

1 Q. No, sir. Do you know what the accused products are in
2 the case?

3 A. The iTunes Store?

4 Q. Did you know that the accused devices in the case are
5 the iPhone, the iPad --

6 A. Yes, yes.

7 Q. -- and the iPod Touch?

8 A. I do, sorry.

9 Q. Okay. Mr. Mirrashidi, how long was it after you started
10 in 2002 before Apple sold any one of those?

11 A. The first iPhone was sold in 2007.

12 Q. So about five years?

13 A. Yes.

14 Q. What is source code?

15 A. Source code is the work product of a software engineer.

16 Q. Is source code important to this case?

17 A. I would think so, yes.

18 Q. Why do you say that?

19 A. Because source code is how -- is the embodiment of how
20 we create these products.

21 Q. And for software, the source code, in a manner of
22 speaking, actually is the product itself, fair?

23 A. Yes.

24 Q. And even in your position, when you were deposed, there
25 were several important data points that you actually didn't

1 know but would want to refer to the source code in order to
2 confirm, correct?

3 A. That's correct.

4 Q. Would you say that that's an understandable response
5 when asked details about how software operates?

6 A. I would think so, yes.

7 Q. Explain that. Why?

8 A. Because -- you know, what we say on my team, the truth
9 is the code. How something works in software is -- is
10 manifested in the source code that was written. So it's the
11 step-by-step instructions for how to do something.

12 Q. How many times in your time at Apple, if you had to make
13 a wild guess, would you estimate you've made the statement
14 the truth is the code?

15 A. I don't know. It's something I've certainly said
16 before.

17 Q. More than a dozen times?

18 A. Probably.

19 Q. When a user creates an account with Apple, Apple sends
20 back to the clients some identifying information that can be
21 used later as part of a purchase, correct?

22 A. Used later as part of a download is how I would put it.

23 Q. Do you agree that as part of the creating an account,
24 you send back to the client some identifying information that
25 can be used later as part of a purchase?

1 A. I agree with that.

2 Q. And the DSID is the most important piece of identifying
3 information that's sent back, correct?

4 A. Correct.

5 Q. I think we discussed the DSID is a unique identifier for
6 a customer account at Apple, right?

7 A. Right.

8 Q. And it identifies the unique account that the customer's
9 logged in with. Do you agree with that?

10 A. I do agree with that.

11 Q. Sir, a user cannot successfully purchase an item without
12 sending the DSID in the buy product request, correct?

13 A. Correct.

14 Q. And that is because the DSID is used when making a
15 purchase, correct?

16 A. Correct.

17 Q. Now, in the current version of -- of the iOS, which is
18 the operating system on the accused products, does the iOS
19 software send a DSID, as well as a GUID and an MID in the buy
20 product request?

21 A. That's right.

22 Q. Do you know the importance of those three pieces of data
23 in this lawsuit?

24 A. Yes.

25 Q. And you did not provide any testimony as to why Apple

1 doesn't infringe, correct?

2 A. That's right.

3 Q. Is the GUID sent as a fraud protection measure?

4 A. Amongst other reasons.

5 Q. And the MID is also sent as a fraud protection
6 measure -- measure, correct?

7 A. Correct.

8 Q. And we know that a device, like one of the accused
9 devices, that has an MID to send, if the user's got a credit
10 card, the user's gone through the little CVV, three-digit
11 code verification in setting up the account, correct?

12 A. That's right.

13 Q. As part of the buy product process, do you agree that
14 Apple looks up a customer's account information in the
15 database?

16 A. Yes.

17 Q. As part of that process, sir, doesn't Apple check to see
18 that there's enough store credit or a valid credit card on
19 file before retrieving download information?

20 A. That's correct.

21 Q. And the Apple servers use the DSID to look up that
22 account, correct?

23 A. Right.

24 Q. When Apple looks up the account using a DSID, Apple runs
25 a series of validation tests, right?

1 A. Yes.

2 Q. In fact, Apple uses a DSID to make sure that that
3 customer's account is in good standing and in a position to
4 purchase the content, correct?

5 A. Correct.

6 Q. Have you ever seen the Court's claim constructions in
7 this case?

8 A. I -- I think I did.

9 Q. And you did not give any reason to the jury why any part
10 of the DSID, the GUID, and the MID does not meet the claim
11 construction, correct?

12 A. Correct.

13 Q. What is xCard?

14 A. xCard is Apple's gift card system.

15 Q. Do you agree that Apple will check xCard before there is
16 any authorization in a purchase?

17 A. We do check xCard when a customer is trying to buy
18 something, yes.

19 Q. Do you know one way or another whether Smartflash's
20 claims require even payment authorization?

21 A. Payment authorization? No, I don't know.

22 Q. Nevertheless, if the user is going to use a credit card,
23 there will be an authorization when a session is initiated,
24 correct?

25 A. That's correct.

1 Q. Do you remember talking about Akamai in your direct?

2 A. Yes.

3 Q. Do you know one way or another whether Akamai has any
4 bearing on the issues for the jury in this case?

5 A. I don't know.

6 Q. Do you remember in your slide you showed a -- what's
7 called a URL that is sent from the server back to the client?

8 A. Yes.

9 Q. In your slides, I believe it said HTTP://www. Do you
10 remember that?

11 A. Yes.

12 Q. Mr. Mirrashidi, do you agree that an Apple device knows
13 it needs to load a URL from a host that is called Store D at
14 iTunes.Apple.com?

15 A. I think it's store.iTunes.Apple.com, not Store D.

16 Q. Okay. This was what was in your -- the transcript of
17 your deposition.

18 A. Okay.

19 Q. May have been mis -- mistranscribed. So I'll -- I'll
20 even repeat it, sir.

21 You agree that an Apple device knows it needs to load a
22 URL from a host called store@iTunes.Apple.com, correct?

23 A. That's right.

24 Q. Who owns the domain name Apple.com?

25 A. Apple does.

1 Q. Has Apple configured that domain name so that content
2 can be delivered by someone like Akamai?

3 A. Yes.

4 Q. That content comes from Apple, correct?

5 A. Yes.

6 Q. And it is just delivered by Akamai, correct?

7 A. Yes.

8 Q. How does Apple get the content like a movie, for
9 example?

10 A. It's delivered through us -- through a variety of
11 different means.

12 Q. Maybe like a studio gives it to Apple or something like
13 that?

14 A. We -- we have a -- what we call a portal called iTunes
15 Connect. We have some systems where we can receive it
16 from -- through different file transfer protocols.

17 Q. And Apple has a group there called the Ingestion Group,
18 correct?

19 A. Correct.

20 Q. And they prepare the file and encrypt it?

21 A. That's right.

22 Q. Apple then takes that encrypted file and supplies that
23 data to the user via Akamai, correct?

24 A. That's right.

25 Q. Do you agree that Apple puts usage rules on content?

1 A. We have like parental controls, as I talked about
2 earlier. Is that what you're referring to?

3 Q. Amongst other things. There are other kinds of rules,
4 as well, sir, correct?

5 A. We -- we do have some policies in place.

6 Q. You have rules, correct?

7 A. Yes.

8 Q. For example, you have rules on how long someone can use
9 a rental of a movie, correct?

10 A. That's right.

11 Q. Rentals have a rule on accessing them, like maybe 30
12 days, correct?

13 A. Yes.

14 Q. In fact, I think you referred to a 30-day, slash,
15 one-day rule in your deposition?

16 A. I did.

17 Q. What is that, sir?

18 A. A 30-day, slash, one-day rule is a rental. When a
19 customer downloads it, it's going to be valid for viewing for
20 up to 30 days. The moment the customer hits play and starts
21 to view that rental, they have 24 hours to finish watching
22 the movie.

23 Q. How does the user's device know that it's got the 30
24 days to watch the movie?

25 A. There's some information sent down in the download

1 response. That's the time for these values.

2 Q. And so the number of days is one rule sent down?

3 A. I would say it's an integer, 30.

4 Q. You're saying it's a number?

5 A. Correct.

6 Q. And you'd agree that all information on computers are
7 numbers, correct?

8 A. That's right.

9 Q. Would you agree with me that it is not a good customer
10 experience to have to enter payment information into a web
11 form?

12 A. Doing it once, I would think it's fine.

13 Q. And after that, you'd say it would get annoying,
14 correct?

15 A. That's right.

16 Q. That's not a good customer experience, is it?

17 A. No.

18 Q. What is the difference in streaming and local storage?

19 A. Engineers can disagree on that sometimes, but the way I
20 would put it is if a file is downloaded to a customer's
21 device, that would be local storage, if they try to play it
22 back. Whereas, if they just, say, hit play, and they're just
23 getting the files off the Internet and playing as it comes
24 along, that would be streaming.

25 Q. And Apple wants customers to be able to download their

1 content, correct?

2 A. That's the basis of our model.

3 Q. I'm sorry. I may have misunderstood you, but --

4 A. Yes, yes, yes.

5 Q. Sir, have you ever just seen in marketing or in internal
6 presentations Apple talking about there being a lot of
7 functionality that's on an iPhone or an iPad or an iPod
8 Touch?

9 A. Yes.

10 Q. Do you agree, however, that it is important to be able
11 to download apps because Apple does not provide all the
12 functionality that you get on your phone by having access to
13 all the apps on the App Store?

14 A. It's important for some people, not all.

15 Q. You would agree there's a lot of functionality that
16 Apple does not provide with its phones that can be added via
17 apps, correct, sir?

18 A. And people like my mom, they don't have any apps, and
19 she loves her phone.

20 Q. Do you agree that there is a lot of functionality that
21 Apple does not provide with its phones that can be added
22 through the App Store?

23 A. Well, that's certainly true.

24 Q. You were at Apple when the first iPhone came out,
25 correct?

1 A. Yes.

2 Q. Remind us when that was.

3 A. June of 2007, something like that.

4 Q. At the time that came out, did Apple allow you to buy
5 anything, any sort of content directly from Apple on the
6 iPhone when it very first came out?

7 A. I believe we had the iTunes Store Version 1.0.

8 Q. In Version 1.0?

9 A. Yes.

10 Q. Was there an App Store?

11 A. There was not.

12 Q. Do you agree it's a better customer experience for a
13 customer to be able to get content directly on their mobile
14 device rather than having to hook it up to a computer and
15 download onto a desktop or laptop computer first?

16 A. Yes.

17 Q. Is an iPhone a type of computer terminal?

18 A. It's a mobile communications device is how I'd put it.

19 Q. It plays multi-media?

20 A. It does.

21 Q. It's handheld?

22 A. It is.

23 Q. Apple's customers like being able to download all sorts
24 of content directly onto their handheld device, correct?

25 A. I think so.

1 Q. And there are differences in downloading directly to
2 your device versus downloading to a desktop or laptop and
3 then side loading to the handheld device, right?

4 A. Yes.

5 Q. Are those differences important?

6 A. It depends on the person.

7 Q. From Apple's perspective, is it important to have
8 downloads directly to the device?

9 A. I think that's true.

10 Q. Mr. Mirrashidi, do you remember in your direct you
11 showed a few examples of a session and how a transaction
12 could occur?

13 A. Yes.

14 Q. I believe I've already asked -- just in case I didn't,
15 do you know one way or another whether the actual credit card
16 processing is a requirement of any of Smartflash's claims?

17 A. I don't know the answer to that.

18 Q. Setting that aside, what happens if the user takes his
19 device and makes a purchase for, say, 14.99, is a credit card
20 already authorized before the user gets the content?

21 A. Yes.

22 Q. That works differently than the examples you showed the
23 jury, correct?

24 A. I don't think it does, no.

25 Q. Well, the session opens and closes with that one

1 transaction, correct?

2 A. The session opens and is closed immediately thereafter.

3 Q. With that one transaction, correct?

4 A. The close happens very quickly after, but -- it's
5 scheduled immediately after, but it doesn't happen exactly at
6 that point.

7 Q. You don't have to wait for -- rack up several purchases,
8 do you?

9 A. That's true.

10 Q. Mr. Mirrashidi, do you view this case as important?

11 A. I think so.

12 Q. And the first time you looked at any part of
13 Smartflash's patents was just the day you were preparing for
14 your deposition -- the day before, correct?

15 A. That's right.

16 Q. How long do you imagine it would take to read one of the
17 Smartflash's patents?

18 A. Took my several hours for the first time.

19 Q. So you've done it now?

20 A. Yes.

21 Q. Prior to your deposition, you spent, what, about 15
22 minutes looking at the patent, correct?

23 A. That's correct.

24 Q. When was it you decided you'd go ahead and read a whole
25 one of the patents?

1 A. When we were preparing for this trial, I wanted to
2 understand specifics.

3 Q. Did you not want to understand the specifics when you
4 were continuing to sell Apple's products and continuing to
5 develop them?

6 A. I was working with our legal department on preparing
7 those -- those things.

8 Q. Now, prior to your deposition, that 15 minutes you spent
9 was not even enough time to read one of them, right?

10 A. That's right.

11 Q. And you didn't read them in enough detail to make any
12 conclusions of your own, correct?

13 A. That's right.

14 Q. I believe you said you barely had an opportunity to
15 scratch the surface, correct?

16 A. Yes.

17 Q. Sir, you're involved in the product development process
18 generally at Apple, correct?

19 A. Yes.

20 Q. Nevertheless, it's your position that when you're
21 developing products, you were not in a position to read other
22 people's patents and draw as to whether they might be in your
23 area or not, correct?

24 A. Right.

25 Q. That's not your job, you leave that to legal; is that

1 what we heard?

2 A. That's right.

3 Q. And I believe you say you work with the legal team
4 regarding patents of others?

5 A. Yes.

6 Q. I think in your direct, you were asked and answered a
7 question saying that you collaborate with legal on issues
8 like this, correct?

9 A. That's right.

10 Q. Nevertheless, when we asked you that in your deposition,
11 didn't you say you had never been involved in a discussion to
12 determine whether Apple needed to consider other company's
13 patent rights with respect to a feature you were developing?

14 A. That's right.

15 Q. You were not aware of a single instance at Apple in
16 which a product was modified or changed as a result of
17 another company's patent rights, correct?

18 A. I've since learned of some cases, but I had said that in
19 my deposition, that's true.

20 Q. Sir, in terms of product development at Apple, you're in
21 a group of principals for the iTunes Store; is that right?

22 A. I'd like to think so, yes.

23 Q. A couple of the other folks that are in that group, one
24 of them is Chris Bell, correct?

25 A. He's no longer with the group.

1 Q. He was?

2 A. He is no longer with the group. He was.

3 Q. I understand. He -- when did he leave the group?

4 A. Recently, last few months.

5 Q. But when we deposed him in his deposition?

6 A. That's right.

7 Q. Now, Mr. Augustin Farrugia is in that group, right?

8 A. Yes.

9 Q. Mr. Sean Kelly is in that group?

10 A. I wouldn't know if he's a principal. He's one of the
11 software engineers.

12 Q. He's one of your product development peers on the iOS
13 client, correct?

14 A. He's an individual contributor a few rungs below me in
15 the hierarchy.

16 Q. What's an individual contributor?

17 A. An individual contributor is someone whose job is to
18 produce software.

19 Q. I think you said he was an Individual Contributor Level
20 5. Does that sound right?

21 A. I probably said he was -- yeah, that's -- that's a
22 senior software engineer.

23 Q. Is there an Individual Contributor Level 4?

24 A. That's right.

25 Q. Is there an Individual Contributor Level 3?

1 A. Yes.

2 Q. Individual Contributor Level 2?

3 A. We typically don't hire that -- at Level 2, but that
4 technically exists in the system.

5 Q. You start out at Level 3?

6 A. I started at Level 4.

7 Q. Sir, did you first work on the iTunes Store when you
8 very first started at Apple?

9 A. Yes.

10 Q. Did you look and see what else was on the market at that
11 time?

12 A. I believe there was Rhapsody was on the market at that
13 same time.

14 Q. And, sir, did you feel like Apple designed a system that
15 was different than what was on the market before?

16 A. Certainly.

17 MR. CALDWELL: Pass the witness.

18 THE COURT: Do you have additional direct,
19 Mr. Post?

20 MR. POST: Brief redirect, Your Honor.

21 May we approach before?

22 THE COURT: You may approach the bench.

23 (Bench conference.)

24 MR. POST: Your Honor, Mr. Caldwell asked

25 Mr. Mirrashidi a number of questions about whether he was

1 here to provide non-infringing positions or identify elements
2 in the claims that weren't present. We had talked about
3 asking that question one time of witnesses, but not going
4 beyond that.

5 I'd like to just ask Mr. Mirrashidi two follow-up
6 questions, the first being whether he's here to testify about
7 non-infringement. He'll say no. And I'll ask him if he
8 understands there's anyone else here on behalf of Apple who's
9 going to provide that testimony, so he can identify the
10 expert witnesses.

11 He was -- indicated that he was the -- the final
12 engineer, the last word; and as we were talking about before,
13 that's not the case --

14 THE COURT: I think that's fine.

15 All right. We're going to take a short -- how much
16 redirect do you think you have?

17 MR. POST: Maybe five minutes or so, but I'm fine
18 if you want to take a break.

19 THE COURT: Is it 5 or is it 25?

20 MR. POST: It's not 25, I promise you that.

21 Maybe --

22 THE COURT: Recross?

23 MR. CALDWELL: I highly doubt it. If it's a couple
24 of questions, I would have no reason to go back up.

25 THE COURT: All right. Let's make it fast. We

1 need a break. We'll wait this time.

2 MR. POST: Okay. Thanks, Your Honor.

3 (Bench conference concluded.)

4 THE COURT: All right. Redirect by the Defendant.

5 MR. POST: Thank you, Your Honor.

6 REDIRECT EXAMINATION

7 BY MR. POST:

8 Q. Mr. Mirrashidi, you were asked some questions about
9 whether your -- you were here to provide testimony about
10 non-infringement.

11 Do you recall that?

12 A. Yes.

13 Q. And is that why you're here?

14 A. No.

15 Q. And do you know whether there is anyone here on behalf
16 of Apple who will provide that testimony?

17 A. Yes.

18 Q. Who is that?

19 A. Apple has some experts.

20 Q. Now, you were asked some questions about the download
21 response message in the context of a session being closed.

22 Do you recall that?

23 A. Yes.

24 Q. Is the transmission of a download response message
25 contingent on any aspect of a payment session?

1 A. No.

2 Q. Are those processes independent, sir?

3 A. That's right. As I mentioned, we float the customer
4 some credit.

5 Q. And what do you mean by float the customer some credit?

6 A. Well, what we came up with when we came up with the
7 session model was a way that Apple could not get charged 30
8 cents per song for every download, which is how the other
9 systems work. And we came up with a way, if we could batch
10 together a bunch of songs, we'd get charged 30 cents for a
11 bunch of them.

12 Q. You were asked some questions about the iPhone and some
13 of the features that might come through downloads of apps.

14 Do you recall that?

15 A. Yes.

16 Q. And an iPhone has features that are present on the
17 device when you buy it, right?

18 A. Yes.

19 Q. So does it have hardware features like GPS?

20 A. Yes.

21 Q. Does -- you consider the retina display to be a feature?

22 A. Yes.

23 Q. And there are features within the iOS operating system
24 itself that you think customers enjoy?

25 A. Yes.

1 Q. You were also asked some questions about rules.

2 Do you recall that?

3 A. Yes.

4 Q. Where are those rules stored within iTunes?

5 A. On the server.

6 Q. And you mentioned some information being provided to the
7 user's device. I think the number was 30 that you pointed
8 to. What is that?

9 A. It's the number of days that a rental is valid on a
10 customer's device.

11 Q. And do you know the form in which that information is
12 sent to the device?

13 A. It's an integer.

14 Q. You were also asked some questions about the combination
15 of a DSID, GUID, and MID as being necessary to ultimately
16 make a purchase.

17 Do you recall that?

18 A. Yes.

19 Q. And those things are found in a -- what's called a buy
20 request, right?

21 A. That's right.

22 Q. Now, there are other things that are included in a buy
23 request beyond that information, right?

24 A. Yes.

25 Q. What would happen if one of those pieces of information

1 was missing, like the secure token?

2 A. The buy wouldn't go through.

3 Q. And what about if the Adam ID was missing?

4 A. It wouldn't know what to buy.

5 Q. So you'd need all those elements --

6 A. Yes.

7 Q. -- for the system to recognize what it receives; is that
8 right?

9 A. That's right.

10 MR. POST: Pass the witness, Your Honor.

11 THE COURT: Further cross, Mr. Caldwell?

12 MR. CALDWELL: I believe I really do have two
13 questions.

14 THE COURT: Two questions.

15 Proceed.

16 RECROSS-EXAMINATION

17 BY MR. CALDWELL:

18 Q. Does delaying credit card settlement mean Apple does not
19 meet the claims?

20 A. I don't know the answer to that.

21 Q. Does --

22 THE COURT: Excuse me. Would you say that again?
23 I didn't hear you.

24 THE WITNESS: I'm sorry, Your Honor. I don't know
25 the answer to that.

1 THE COURT: All right. Let's proceed.

2 Try to speak up, please.

3 Q. (By Mr. Caldwell) Does the download response message
4 depend on the series of validation tests that Apple servers
5 perform?

6 A. We do a series of validation tests on the server to
7 produce a download response.

8 MR. CALDWELL: No further questions.

9 THE COURT: Additional direct?

10 MR. POST: Nothing further, Your Honor.

11 THE COURT: All right. You may step down,
12 Mr. Mirrashidi.

13 MR. POST: Your Honor, I have a request that
14 Mr. Mirrashidi be released.

15 THE COURT: Is there objection?

16 MR. CALDWELL: No, sir.

17 THE COURT: All right. You may not only step down,
18 but you are excused. You may stay or you may leave. It's up
19 to you.

20 THE WITNESS: Thank you, Your Honor.

21 THE COURT: Ladies and Gentlemen, we're going to
22 take a brief recess before the Defendant calls their next
23 witness.

24 We'll try to make this short so we can continue,
25 but I'm going to ask you to leave your notebooks in your

1 chairs, don't discuss the case, and we'll be back in here
2 shortly.

3 You're excused for recess at this time.

4 COURT SECURITY OFFICER: All rise.

5 (Jury out.)

6 THE COURT: All right. Court stands in recess.

7 (Recess.)

8 COURT SECURITY OFFICER: All rise.

9 THE COURT: Be seated, please.

10 All right. Let's bring in the jury.

11 COURT SECURITY OFFICER: All rise for the jury.

12 (Jury in.)

13 THE COURT: Please be seated.

14 Defendants, call your next witness.

15 MS. FUKUDA: Your Honor, Apple calls Mr. Steven

16 Ansell.

17 THE COURT: All right. If you'll bring him in the
18 courtroom, please.

19 (Pause in proceedings.)

20 THE COURT: Mr. Ansell, if you'll come forward, our
21 Courtroom Deputy will administer the oath to you.

22 (Witness sworn.)

23 THE COURT: Please have a seat here at the witness
24 stand.

25 All right. Ms. Fukuda, you may proceed.

1 MS. FUKUDA: Your Honor, may we hand out a very
2 small binder --

3 THE COURT: Yes.

4 MS. FUKUDA: -- to the Court and to the other side?

5 THE COURT: And, Counsel, as I mentioned earlier,
6 when the witnesses are coming in, hand out the binders. That
7 way we don't have to wait.

8 MS. FUKUDA: Yes, Your Honor.

9 THE COURT: All right. Proceed.

10 STEVEN ANSELL, DEFENDANT'S WITNESS, SWORN

11 DIRECT EXAMINATION

12 BY MS. FUKUDA:

13 Q. Mr. Ansell, would you please introduce yourself to the
14 jury?

15 A. My name is Steven Ansell.

16 Q. And what is the purpose of your testimony here today,
17 Mr. Ansell?

18 A. I'm here to give testimony on a patent on which I'm an
19 inventor.

20 Q. Mr. Ansell, are you employed by Apple?

21 A. No.

22 Q. And you mentioned a -- one of your patents. Could you
23 turn in your binder to DX-APL 021?

24 A. Okay.

25 Q. And what is that patent number?

1 A. The patent number is 6 -- 6,367,019.

2 Q. Is that the patent you'll be testifying about today, Mr.
3 Ansell?

4 A. Yes, it is.

5 Q. And generally, what is the subject matter of your
6 patent?

7 A. The patent covers copies -- or security for portable
8 digital tracks in the context of content distribution.

9 Q. And, Mr. Ansell, for which company were you working when
10 you obtained your patent?

11 A. I was working for Liquid Audio.

12 Q. And during which years did you work for Liquid Audio?

13 A. I worked for Liquid Audio from mid-1996 until late 2002.

14 Q. Mr. Ansell, do you have a family?

15 A. Yes, I do. I have a wife and two boys. Oldest one is
16 27, just became a lawyer; and my younger boy is 22, and
17 hopefully finishing his last year of college.

18 Q. Mr. Ansell, what is your current job?

19 A. I'm a software consultant and part owner of a company in
20 Santa Clara called Phase 2 Industries.

21 Q. What does Phase 2 do?

22 A. We do software consulting for companies.

23 Q. And do you have a college degree?

24 A. Yes, I do.

25 Q. What is it?

1 A. It's -- I have a Bachelor of Science in computer science
2 from University of California, Davis.

3 Q. Did you have any jobs when you were in college?

4 A. I had a few jobs in college. I worked on campus in the
5 computer lab, and I also worked a couple of summer jobs.

6 I did a summer internship with the Naval Weapon Station
7 in Concord consulting on their UNIX systems, and then I had
8 another internship with Fujitsu Corporation.

9 Q. And just very briefly, Mr. Ansell, would you summarize
10 for us your professional experience --

11 A. Sure.

12 Q. -- since college.

13 A. Okay. So after college, I started at Anvil Corporation,
14 who makes -- they were a manufacturer of mainframe computers.
15 I worked on their UNIX operating system.

16 And then after that, I worked for a company called
17 Legion Corporation. They make software tools that other
18 developers used on workstation machines.

19 And then I went to start work at a very small startup
20 company that did online gaming service called Catapult
21 Entertainment.

22 And after that, in 1996, I started at Liquid Audio where
23 I was there until 2002, as I mentioned before.

24 And then I worked for Sony Corporation for about nine
25 years and left there around 2011 when I started at Phase 2

1 Industries.

2 Q. What position did you have when you were at Liquid
3 Audio?

4 A. I started as just a member of staff, but by the end of
5 it, I was director of engineering.

6 Q. What position did you have at Sony?

7 A. I was also director of engineering there.

8 Q. After you left Sony, was that when you joined Phase 2?

9 A. Yes.

10 Q. Thank you, Mr. Ansell.

11 Mr. Ansell, the question of your compensation, I would
12 like to ask you a few questions. Are you being compensated
13 for the time that you spent working on this case and
14 preparing for today's testimony?

15 A. Yes. For the time preparing for it, yes.

16 Q. And who raised the fact that your time working on this
17 case needed to be compensated?

18 A. I did.

19 Q. Mr. Ansell, would you tell the jury -- would you
20 describe your first interaction with Apple's attorneys on
21 this case?

22 A. Sure. There was a couple of voice mails back and forth;
23 but in the first conversation, they asked if I would assist
24 in representing a patent that I'm an inventor on.

25 And, you know, I told them it'd take some of my time,

1 and I said that I'd have to be compensated for that time.

2 Q. And why did you need to be compensated for that time?

3 A. Well, my time is very valuable as a consultant and also
4 someone who runs a business. This time was not in the line
5 of my normal business, so it couldn't be done in my office.

6 I've have to leave my office, have meetings with the
7 attorneys offsite, do research independent of that.

8 It took time away from my clients, so I basically have
9 to make that up. And so I told them I -- I told them, quite
10 frankly -- excuse me -- I told them, quite frankly, I was
11 going to charge double my rate or ask double my rate.

12 Q. When did you tell the Apple attorneys that?

13 A. The first conversation I just said I'd have to be
14 compensated. They asked how much. I said I'd have to get
15 back to them. I had some discussion with my partner, did
16 some of my own research. That's when I -- in the next
17 conversation, I told them that.

18 Q. Do you have a standard hourly rate for your work in your
19 consulting business?

20 A. No. I mean, for our business with Phase 2, it really
21 ranges. It depends on the project, on the client, the type
22 of work, how long term it is.

23 Shorter work is generally more expensive, just because
24 we can't plan long term. It also depends on how much it
25 benefits sort of long-term goals as a company. There are a

1 number of factors that go into it.

2 Q. What rate are you charging for the time that you spent
3 working on this case?

4 A. I'm charging \$400 an hour.

5 Q. And how does that compare with the rates that you charge
6 for your other work?

7 A. It's about double the rate I would -- the top rate I
8 would charge for my development work.

9 THE COURT: Mr. Ansell, would you please speak up?

10 THE WITNESS: I'm sorry.

11 THE COURT: Thank you.

12 Q. (By Ms. Fukuda) Why -- please explain to us why your
13 rate is almost double what you charge in your normal
14 consulting rate.

15 A. So this is different type of work. It's litigation
16 work. It's not the development work I do. And I can't do it
17 in my office.

18 As I said, we're very busy right now. I've got -- at
19 the time I started this, I had three clients I was working on
20 in tandem. So I really didn't have extra time. I had to
21 take time away from those clients and have someone else make
22 that time up.

23 So I -- you know, I quoted a rate that I thought
24 would -- would compensate for that factor. I'm not charging
25 them for travel and that stuff, which is -- puts a certain

1 amount of overhead on the time. Like I said, I can't do it
2 on the office, so it puts an overhead on that time.

3 Q. And just to be clear, did Apple offer to pay you double
4 your rate?

5 A. No. I asked for it, and they said they'd get back and
6 see if Apple would -- would accept that rate, and they did.

7 Q. Are you being compensated for the time that you spend
8 testifying in court today?

9 A. No.

10 Q. You have -- you had given some deposition testimony in
11 this case?

12 A. Yes, I did.

13 Q. And about how long did that deposition take?

14 A. That was a full day, eight hours or so.

15 Q. Okay. And -- and who was asking you questions during
16 that deposition?

17 A. The opposing attorney.

18 Q. When -- were you compensated for the day that you spent
19 testifying in that deposition?

20 A. No.

21 Q. Does your compensation depend in any way on who wins or
22 loses at this trial?

23 A. No, of course not.

24 Q. And does your compensation depend in any way on the
25 content of your testimony?

1 A. No.

2 Q. Mr. Ansell, have you charged your time for your travel
3 in coming to Tyler, Texas to testify today?

4 A. No. As I mentioned before, I don't charge for travel
5 time. Just the time I spend with the client actually doing
6 work.

7 Q. And will you be charging Apple for the time that it
8 takes you to travel from Tyler back to California?

9 A. No.

10 Q. About how many hours did you spend prepare -- doing the
11 different things you were asked to do and to prepare for
12 today's testimony?

13 A. So between meetings I've had with the Apple attorneys
14 and the time I spent independently researching some of my
15 patent material and related material, it was about --
16 probably going to come to about 40 hours in total.

17 Q. Okay. And about how many hours did you lose from your
18 typical consulting work if you include the time that you
19 devoted to this case with travel and so forth?

20 A. Probably more like 60 hours, not including the
21 deposition or court time.

22 Q. If Smartflash had called you first and asked you to work
23 with them and prepare to give testimony about your patent at
24 trial today, would you have considered that?

25 A. Yes, of course.

1 Q. And would you have asked Smartflash to compensate you
2 for your lost time?

3 A. Yes, of course.

4 Q. Would you have charged them the same rate --

5 A. Yes.

6 Q. -- that you're charging Apple?

7 A. Yes.

8 Q. Mr. Ansell, I -- I would also like to open the door to
9 all the conversations that you have had with the Apple
10 attorneys in this case. I would like to ask you, what
11 kind -- what kind of discussions have you had with the Apple
12 attorneys on this case in preparing for your testimony today?

13 A. Sure. Most of the discussions were all related around
14 my patent and the background of that patent.

15 Q. And were you asked to do anything else?

16 A. Initially, I did -- I was asked to do some research, you
17 know, general background on the industry at that time; and
18 then work I was going to look for any materials that I had --
19 or might have from back in those days, which was a long time
20 ago.

21 Q. And, Mr. Ansell, has Smartflash's attorneys had a chance
22 to ask you questions about your patent before today?

23 A. Yes. We spent a full day in deposition.

24 Q. And when did that deposition take place?

25 A. It was late January.

1 Q. And what kind of things did they ask you about?

2 A. Well, they asked me about the patents, of course. We
3 went through those in quite a bit of detail.

4 They also asked me a lot of background about -- the sort
5 of questions you're asking now, about my compensation. They
6 asked questions about my company's business, about what type
7 of clients we work with.

8 They asked some questions about information about my
9 clients and partners that we work with, some of which I
10 couldn't divulge because it's private to myself and my
11 clients. They also did ask about my personal finances.

12 Q. Okay. Mr. Ansell, do you remember that there was, at
13 one point, where one of the Smartflash attorneys had tried to
14 call you?

15 A. One of them left me a voice mail.

16 Q. Yes. And what did you do after receiving the voice
17 mail?

18 A. I contacted you.

19 Q. Okay. And what did I tell you after you contacted me?

20 A. You said that you would -- you would contact them.

21 Q. Did you know why Smartflash's lawyers were trying to
22 reach out to you?

23 A. On the message, they said that they were going to
24 request that I be deposed. This was obviously before the
25 deposition.

1 Q. And on their message, did they say anything else to you?

2 A. There was a little bit of an introduction. I don't
3 remember what else exactly, though.

4 Q. And did I tell you what happened after I got your
5 message about the call from Smartflash's attorneys?

6 A. Yeah. You told me that -- that they were going to
7 depose me.

8 Q. And -- and what happened after that?

9 A. The call -- you know, you were trying to schedule the
10 deposition.

11 Q. And did that deposition take place?

12 A. Yes.

13 Q. Is there anything that you had discussed with any of
14 Apple's attorneys today that you're not willing to talk
15 about?

16 A. No.

17 Q. Have I left anything out, anything that we've discussed
18 that you haven't brought up yet?

19 Oh, I'm sorry. That's a bad question. We -- let me ask
20 you this: Are there any general topics that we've discussed
21 that you have not yet brought up today?

22 A. Not that I can think of offhand.

23 Q. Mr. Ansell, you were talking about your '09 -- your '019
24 patent earlier?

25 A. Yes.

1 Q. Could we bring up the first slide?

2 A. Yes.

3 Q. And, Mr. Ansell, if you could take a look at that first
4 slide. Can you tell us whether this was -- who was involved
5 in generating these slides?

6 A. I worked together with Apple's attorneys on the -- the
7 slide material, but it's all culled directly from the patent.

8 Q. Okay. And what's the purpose of generating a slide deck
9 like this?

10 A. As I understand it, just to demonstrate that -- you
11 know, the information in the patent, to explain, you know, in
12 more -- in simpler terms, sort of summarize the relevant
13 pieces of my patent to the -- to the -- to the jury, the
14 Court.

15 Q. Is -- in this slide, DD3.2 here, does -- does that show
16 some information from the cover of your patent?

17 A. Yes. This is...

18 Q. And are you a named inventor of the '019 patent?

19 A. Yes. I'm the first named inventor there.

20 Q. Okay. What is the title of your patent?

21 A. It's Copy Security for Portable Music Players.

22 Q. Who was assigned the rights to this '019 patent when it
23 issued?

24 A. It was assigned to Liquid Audio, Incorporated.

25 Q. When was this patent application filed?

1 A. March 26th, 1999.

2 Q. Were you the only named inventor on this patent?

3 A. No. There are a number of inventors.

4 Q. And, Mr. Ansell, if you could just lean a little closer
5 to the microphone. Thank you.

6 You were the first named inventor, you said?

7 A. Yes.

8 Q. Okay. Why were you the first named inventor?

9 A. I was the primary on this particular patent. They did
10 most of the technical -- the -- the work to design and
11 develop the technology.

12 Q. What is the general technical field of the technology
13 described in your patent? And is it okay if I refer to this
14 as the Ansell Liquid Audio patent going forward?

15 A. Yes.

16 Q. Okay. What is the general field of invention in your
17 Ansell Liquid Audio patent?

18 A. This basically covers the content security distribution
19 for playing digital content and a mechanism for distributing
20 and playing that.

21 Q. What is -- what is distributing?

22 A. Distributing basically means sort of purchasing and
23 downloading in simpler terms.

24 Q. And were there any problems in this particular field at
25 the time you filed your patent application?

1 A. Yeah. At the time this patent application was filed --
2 so MP3 players, portable music players, were becoming very
3 popular at the time, so people could copy things -- they
4 didn't offer any copy security, so unauthorized copying was a
5 big issue. So that was one of the things that we decided
6 that we were going to tackle.

7 Q. Mr. Ansell, the -- in your Ansell Liquid Audio patent,
8 Column 14, Lines 4 to 12, which is all blown up here on the
9 slide, can you tell us what's the embodiment that's described
10 in that paragraph?

11 A. Sure.

12 Embodiment is computer network known as the Internet,
13 which I think most people are familiar with these days, where
14 the user can purchase content from any number of sites,
15 possibly -- or possibly from a -- a kiosk at a retail site,
16 and then authentication with that site -- you know, logging
17 into that site, you can purchase what we call secure portable
18 tracks, SPTs, and download them for the player.

19 Q. What are secure portable tracks or SPTs in your
20 invention?

21 A. They're files that contain digitized content and -- and
22 other information that keeps them protected from unauthorized
23 copying.

24 Q. Now, Mr. Ansell, you mentioned, earlier, MP3 players?

25 A. Yes.

1 Q. Could you tell us how your invention fits into the
2 context of the world of MP3 players?

3 A. Sure. As I was saying before, at the time this patent
4 was -- was filed, MP3 players were fairly new and becoming
5 popular, but -- and they offered, you know, really great
6 convenience and sound quality, but they were also very easy
7 to -- to, you know, copy things on and off, so there were a
8 number of sites out there where people would just download
9 free music or -- or share free music.

10 So what we did is we came up with a mechanism to -- to
11 try and secure that and make sure that the -- the rights
12 holders of that -- that music were -- were compensated.

13 Q. And is that described in Column 1, Lines 24 to 33, of
14 the Liquid Audio Ansell patent?

15 A. Yes, it is.

16 Q. How did your invention address the problems of this --
17 unauthorized copying problems associated with MP3 players?

18 A. So the primary mechanism, as described in the patent, it
19 was used by securing the content so that it can only be sent
20 to certain players.

21 Q. Okay. Would you describe for us what is happening -- is
22 this patent -- I'm sorry, is this Figure 1 of your Ansell
23 Liquid Audio patent?

24 A. Yes, it is.

25 Q. And would you describe to us the various pieces that you

1 show in your Figure 1 of your patent?

2 A. So this shows the whole chain of how content would move
3 through the system starting -- you know, if you start sort of
4 from the right with the little cloud there and the network
5 access circuitry, which would be the network interface,
6 that's where the content would be downloaded from -- from a
7 system online, down to a player which would be running on
8 your PC.

9 And that player could be connected to a portable music
10 player, an MP3 player, then using something we referred to as
11 the SPT interface could transfer those tracks to them.

12 Q. Mr. Ansell, can you point out to the jury where the MP3
13 player is in that Figure 1?

14 A. Yes, the lower right.

15 Q. Can you tell us what the item number is?

16 A. Oh, 150, sorry.

17 Q. Mr. Ansell, does your patent discuss what types of
18 content could be distributed securely?

19 A. Yeah. Mainly it talks about music content because that
20 was the -- the area that we were working in; but as described
21 in the patent here and Column 5, it -- you know, the -- the
22 techniques and mechanisms that we developed were applicable
23 to any type of digital data, which could be, you know, still
24 images, videos, computer software.

25 Q. And where is all of this content being obtained as

1 described in your patent?

2 A. It was downloaded -- so the -- the content would come
3 from computer network sites like we mentioned earlier. There
4 were a great number of sites out there, and there's one
5 specifically referenced in the patent which is described in
6 another patent of mine, which is --

7 Q. And is that referenced in Column 5, Lines 1 to 7, of
8 your patent?

9 A. Yes, the -- the other patent described as Secure Online
10 Music Distribution System.

11 Q. I'm sorry, what is the title of the other patent?

12 A. I'm sorry. Secure Online Music Distribution System.

13 Q. And are you an inventor on that, as well?

14 A. Yes, I am.

15 Q. Mr. Ansell, going into more details of your invention,
16 could you describe to us how your invention implements a
17 solution to unauthorized copying?

18 A. Sure. So once the player receives the track, as we
19 talked about, from -- from the online site, then it basically
20 uses something called the SPT interface to convert and create
21 the track into that portable track, which is the format that
22 the portable music player can download and play.

23 Q. And looking at -- back again at Figure 1 of your patent
24 there, can you describe to us what's happening in yellow and
25 what's happening in blue?

1 A. So in yellow is the -- the player on the PC reading the
2 tracks that it downloaded. Then using the -- the SPT
3 interface to basically convert those or -- or portable tracks
4 that can be used by the portable player down there, 150 on
5 the right.

6 Q. And how does your patent describe the process by which
7 the music tracks are downloaded to the portable device?

8 A. So --

9 Q. I jumped ahead of you. Go ahead, Mr. Ansell.

10 A. As far as the downloading, it's pretty much direct, what
11 I described there. It -- it takes the SPT interface and
12 converts them to the -- to the portable track format, and
13 then sends them to the portable track. There's a few more
14 steps that I can describe in -- in separate slides.

15 Q. Can you tell us a little bit more about this SPT?

16 What's in this SPT as described in your patent?

17 A. Okay. So the SPT is a file format, and the main portion
18 of it that's really important is the header, which contained
19 most of the security information. It contained binding
20 information which -- which ties it to particular portable
21 players and -- and media, and as well as a restriction block
22 which define restriction type, restriction data, and
23 restriction state.

24 Q. And what are -- is that being depicted in Figure 9 of
25 your patent?

1 A. Yes.

2 Q. Okay. And the header is being depicted in Figure 3 of
3 your patent?

4 A. Yes. Figure -- Figure 9 is sort of a blowup of a part
5 of -- of the header --

6 Q. Okay.

7 A. -- or parts of the header.

8 Q. You see there there's a field called Restriction 902 in
9 Figure 9?

10 A. Right.

11 Q. Could you tell us, what are restrictions, according to
12 your patent?

13 A. So restrictions are sort of -- like I said, there's a
14 type, data, and state; and each one of those defines a
15 particular aspect of a restriction of how the track is
16 supposed to be used.

17 Q. And where did these descriptions come from as described
18 in your patent?

19 A. So the restrictions can be placed upon it by the player
20 at transfer time or indirectly by a server when it was
21 downloaded.

22 Q. And by server, what is that referring to?

23 A. That's referring to when it's distributed from -- from
24 the network.

25 Q. Could you tell us what's inside this Restriction 902?

1 A. I'm -- oh.

2 Q. Can you tell us what's inside the Restriction 902?

3 A. I mentioned a minute ago, it's the restriction type,
4 data, and state.

5 Q. And focusing on that first item, the restriction type,
6 could you tell us what is a restriction type, as described by
7 the Liquid Audio Ansell patent?

8 A. So it's described here. The -- the type is the -- you
9 know, quite obviously, the particular type of restriction,
10 but what that means is -- or an example, as referenced in the
11 patent, would be like -- it might be the -- that the -- the
12 content can only be played a certain number of times or that
13 there's a restriction on the expiration time beyond which the
14 track cannot be played or that it can only be sent to a
15 number of portable players or portable media devices or media
16 storage devices.

17 Q. And is that described in Column 11, 19 to 26, of your
18 patent?

19 A. Yes, it is.

20 Q. Moving on to restriction data, 906, what is restriction
21 data, according to your patent?

22 A. So as further described in -- in Column 11, restriction
23 data is specific to the type of restriction being specified.

24 So, for example, if the type was that the track could
25 only be played a number of times, the restriction data would

1 hold the number of times to be played, like the No. 3 might
2 be there.

3 Or if the restriction type was that the track can only
4 be -- you know, would expire or could only be played up to a
5 certain expiration data, then the restriction data would
6 contain the actual date in that -- that field.

7 Q. And finally, the restriction state -- oh, I'm sorry what
8 you just testified about, is that shown in Column 11, Lines
9 27 to 38 of your patent?

10 A. Yes.

11 Q. Okay. What is that -- that last field, Restriction
12 State 908?

13 A. So the -- the restriction state field is used for
14 certain types of restrictions, such as ones that have
15 account, for example. So if there's an account, the
16 restriction type would say that there's a restriction on the
17 number of times it can be played. The restriction date would
18 be the number of times it can be played, and the state would
19 be the current number of times it's been played.

20 Q. Okay. And is that described in your patent, Column 11,
21 Lines 39 to 43?

22 A. Yes.

23 Q. Mr. Ansell, how does the Liquid Audio Ansell patent
24 describe how these restrictions are enforced?

25 A. So it first starts with the -- the point at which the

1 track is going to be transferred to the portable player, and
2 the player reads through those restrictions and makes sure
3 that the portable player can enforce all the restrictions
4 before transferring it. And that's described in -- in Column
5 12, Lines 9 through 12.

6 Q. Thank you. What happens if the portable player cannot
7 enforce a restriction?

8 A. Then the track will not be sent to the -- to the
9 portable player.

10 Q. And what happens if the portable -- portable player can
11 enforce the restrictions?

12 A. In that case, the -- the track is sent to the portable
13 player.

14 Q. What is the SPT that's stored in the portable player?

15 A. So it's -- the file gets downloaded -- oh, there we go.
16 Oh, okay.

17 So once it's downloaded to the portable player, it's
18 either downloaded to portable media, which is media that can
19 be shared between a number of devices, like a -- a DVD or a
20 Flash memory card, or it could be downloaded directly into
21 the internal memory inside the portable player itself that --
22 that wouldn't be able to be easily shared between multiple
23 devices.

24 Q. And what does the Liquid Audio Ansell patent disclose
25 about how the player enforces those restrictions during

1 playback?

2 A. Sure. So it describes that when the portable player
3 goes to play, it includes logic that will read that track and
4 it parses that header information and contains the
5 restrictions. And that's described in Column 8, Lines 12
6 through 18.

7 Q. And, Mr. Ansell, what does the -- is your invention
8 further described in the remainder of your patent?

9 A. I'm sorry?

10 Q. Oh, is your invention further described in the remainder
11 of the patent that we didn't specifically cover today?

12 A. Yes, there's the -- a lot of other detail in the patent
13 other than what we discov -- what we discussed today.

14 MS. FUKUDA: Thank you. I pass the witness.

15 THE COURT: Cross-examination.

16 CROSS-EXAMINATION

17 BY MR. CALDWELL:

18 Q. Good afternoon, Mr. Ansell. Did I pronounce it
19 correctly?

20 A. Yes.

21 Q. I'm Brad Caldwell. We haven't spoken before, correct?

22 A. Correct.

23 Q. I'm the one that left you a voicemail, correct?

24 A. I believe so.

25 Q. Mr. Ansell, I didn't offer to pay you or anything like

1 that when I left you a voicemail, did I?

2 A. Did you -- no.

3 Q. Mr. Ansell, do you remember when it was that I called
4 you?

5 A. I'm sorry?

6 Q. Do you remember when it was that I called you?

7 A. I believe it was in November sometime. I'm not sure
8 exactly the time.

9 Q. November or December, correct?

10 A. Yeah, that's probably correct.

11 Q. And one of the things I asked you was whether you were
12 represented by counsel, because due to ethical rules, I
13 wouldn't want to talk to you if you were represented by
14 counsel, correct?

15 A. Right, that -- that's right. I forgot that was on the
16 message, as well.

17 Q. When was it that you became represented by Apple's
18 lawyers?

19 A. During some of our initial discussions, it came up that,
20 you know, maybe I would have some -- should have someone to
21 guide me through some of the -- the preparation, and they
22 said that they could represent me.

23 Q. Mr. Ansell, I would like to know when you became
24 represented by Apple?

25 A. That was -- I believe that was in October.

1 Q. Did you understand that they hadn't even told us that
2 they had signed you up with that contract by December?

3 A. No, I didn't know anything about their conversations
4 with you.

5 Q. Am I correct that when you referred earlier to a
6 200-dollar-an-hour rate, that is the rate that your company,
7 which is Phase 2, bills you out at, correct?

8 A. Yes.

9 Q. Do you personally make that \$200 when it's billed out?

10 A. I'm not paid on an hourly basis from the company.

11 Q. I don't wish to get too -- too personal, but if you were
12 to break down what you do get paid on an hourly basis, it's
13 less than \$200, sir, correct?

14 A. Yes.

15 Q. Maybe more like 130, something in that range?

16 A. Maybe. It's hard to say with full compensation because
17 I do also make some value off it at the end of the -- the
18 year based on company profit.

19 Q. And when you're paid \$400 an hour in this case, that is
20 not going to your company, is it, sir?

21 A. No, not directly.

22 Q. So earlier you mentioned that you discussed with your
23 partner the fact that you would be gone, but you're not
24 sharing that money directly to point -- to Phase 2, correct?

25 A. This is not company business, so it didn't make sense to

1 have the company be part of that transaction.

2 Q. The company Phase 2 that you work for now develops
3 applications, correct?

4 A. Yes.

5 Q. In fact, the Apple App Store is pretty important to your
6 business, isn't it, sir?

7 A. I would not say it's directly important to our business.
8 It's important to some of our customer -- clients.

9 Q. At the time of your deposition, didn't you testify that
10 80 percent of your company's work came from one client?

11 A. At the time, yes, 80 percent of our -- at that time,
12 yes, there was one client who is about 80 percent of our work
13 right now.

14 Q. And for that one client that was 80 percent of your
15 work, Apple and its App Store are very important, correct?

16 A. Actually, that's not correct.

17 Q. In connection with your work for that one client, you
18 even had technical discussions with Apple on behalf of that
19 client, correct?

20 A. I've been to one technical meeting with Apple on behalf
21 of that client, yes.

22 Q. Mr. Ansell, do you understand the distinction between a
23 fact witness and an expert witness?

24 A. Yes, I do.

25 Q. Have you ever served as an expert witness before?

1 A. No.

2 Q. And you're not here to provide any opinion testimony,
3 correct?

4 A. Correct.

5 Q. Is your role just to tell the jury about the facts
6 you're aware of?

7 A. Yes.

8 Q. Had you ever worked with the law firm that Apple hired
9 prior to this matter?

10 A. No.

11 Q. If you had just been served with a subpoena for facts,
12 would you have sat for a deposition and testified truthfully?

13 A. Yes.

14 Q. You've gone through a bunch of slides out of the Ansell
15 patent, correct?

16 A. Correct.

17 Q. Do you understand why Apple wants to show that patent to
18 the jury?

19 A. As I understand it, they're claiming it as prior art
20 to -- to Smartflash's patent.

21 Q. Would you agree that the Ansell patent does not describe
22 a particular payment protocol?

23 A. No, that patent does not describe anything about
24 payment, other than referencing services online that you can
25 purchase things from.

1 Q. And, sir, in your patent, there is no specific
2 purchasing content online that is called out in that patent,
3 correct?

4 A. It is only referenced. Not called out. Not spelled out
5 in -- in the -- in detail in those words.

6 Q. And that patent does not disclose purchasing content
7 directly from a portable device, does it, sir?

8 A. No, that's not part of that patent.

9 Q. Sir, you did not invent storing a user's payment
10 information on their device so that the user doesn't need to
11 enter it into a web form, did you?

12 A. I'm sorry, I didn't quite understand the question.

13 Q. You did not invent storing a user's payment information
14 on their device so the user does not need to enter it into a
15 web form, did you?

16 A. No, I do not claim I invented that.

17 Q. And your patent does not disclose storing a user's
18 payment information on a user device, does it?

19 A. No, the Ansell patent does not disclose storing payment
20 on a user's device.

21 Q. Would you agree that iPhones, iPads, and iPod Touches do
22 not use the technology in the Ansell patent?

23 A. Yes, I would agree with that statement.

24 Q. Does the Ansell patent clearly indicate that content can
25 only be played once it is paid for?

1 A. I think that would depend on what you mean clear --
2 like, clearly, I think it specifies that the content can only
3 be played once it's downloaded from a music store where it's
4 purchased or some -- a service where it's purchased.

5 Q. All right, sir. The Ansell patent does not clearly
6 indicate that content can only be played once it is paid for,
7 correct?

8 A. I -- I don't think I agree. I think it says that the
9 content has to be downloaded from a store first where you pay
10 for it --

11 MR. CALDWELL: Mr. Mortensen --

12 A. -- or where you purchase it. I'm not --

13 MR. CALDWELL: Mr. Mortensen --

14 A. Maybe I'm not understand --

15 THE COURT: Wait -- wait a minute. Are you through
16 with your answer, sir?

17 THE WITNESS: I'm sorry, yes.

18 THE COURT: Just want to make sure we finish the
19 answer before we move on.

20 All right. Go ahead, Mr. Caldwell.

21 MR. CALDWELL: Mr. Mortensen, will you put up my
22 Slide No. 29?

23 Q. (By Mr. Caldwell) And, sir, you remember your
24 deposition, and you were under oath there, correct?

25 A. Okay. Yes.

1 Q. And when you were asked in your deposition, does the
2 Ansell patent clearly indicate that content can only be
3 played once it is paid for, your answer was: No, it does not
4 explicitly say that or -- or limit the scenario to that.

5 Did I read that correctly?

6 A. Yes. It doesn't explicitly say it, that's correct. It
7 does imply it. I guess that's what I was focusing on.

8 Q. It doesn't say it?

9 A. Right. It doesn't explicitly say it.

10 MR. CALDWELL: No further questions, Your Honor.

11 THE COURT: Additional direct?

12 MS. FUKUDA: No further questions.

13 THE COURT: You may step down, Mr. Ansell.

14 MS. FUKUDA: Your Honor, Apple requests permission
15 to release the witness?

16 THE COURT: Is there objection to his being
17 excused?

18 MR. CALDWELL: No objection, Your Honor.

19 THE COURT: All right. You're excused.
20 Defendants, call your next witness.

21 MS. FUKUDA: Apple calls Dr. George Ligler.

22 THE COURT: Please come forward and be sworn.
23 (Witness sworn.)

24 THE COURT: Please have a seat on the witness
25 stand.

1 All right. Let's proceed.

2 DR. GEORGE LIGLER, DEFENDANT'S WITNESS, SWORN

3 DIRECT EXAMINATION

4 BY MS. FUKUDA:

5 Q. Good afternoon, Dr. Ligler.

6 A. Good afternoon.

7 Q. Dr. Ligler, would you please introduce yourself to the
8 jury?

9 A. Good afternoon, I'm George Ligler.

10 Q. And, Dr. Ligler, what is the purpose of your testimony
11 today?

12 A. Well, I'm going to be providing an overview of some of
13 the accused Apple -- some features of the accused Apple
14 products and discussing issues related to whether or not the
15 accused products use the claims of the -- the asserted claims
16 of the Smartflash patents.

17 Q. And have you prepared some demonstratives for today's
18 purposes to walk the jury through your opinions?

19 A. Yes, I have.

20 MS. FUKUDA: Could we pull up the first slide,
21 please?

22 Q. (By Ms. Fukuda) Dr. Ligler, what is shown here in Slide
23 2?

24 A. Well, the three topics that I'd like to discuss this
25 afternoon, the first being an overview of Smartflash's

1 asserted patents, a -- a very brief overview, followed by an
2 overview of Apple's FairPlay system and parental controls in
3 the iOS devices.

4 Q. Dr. Ligler, before we get to that, could you tell us
5 where do you currently live?

6 A. I live just south of Raleigh, North Carolina in
7 Fuquay-Varina, North Carolina.

8 Q. And do you have a family, Dr. Ligler?

9 A. Yes, I do. My wife of 42 years and I have two children,
10 a physician and an attorney; and they've been productive. We
11 have five grandchildren and are expecting a sixth one next
12 week.

13 Q. What do you do for a living?

14 A. I'm a computer systems engineering consultant.

15 Q. And, Dr. Ligler, are you employed by Apple?

16 A. No, I'm not.

17 Q. What degrees do you hold, Dr. Ligler?

18 A. I hold a Bachelor of Science degree in mathematics from
19 Furman University in Greenville, South Carolina. I achieved
20 that degree with highest honors. Then I did my graduate work
21 at Oxford University in Oxford, England, where I obtained a
22 Master's degree and a Doctoral degree in computer science.

23 Q. Why did you go to Oxford to get your Ph.D. -- I'm sorry,
24 to get your doctorate?

25 A. I was awarded a Rhodes Scholarship competitively, and

1 that Rhodes Scholarship is directed to studies at Oxford. In
2 fact, it -- it paid for my graduate education.

3 Q. And how many people are offered a Rhodes Scholarship
4 every year?

5 A. On a worldwide basis, 70. Within the United States each
6 year, 32.

7 Q. What did you do after obtaining your doctorate from
8 Oxford?

9 A. My wife and I went someplace warm and less humid, San
10 Antonio, Texas. I took up a position the University of --
11 what was then the very new University of Texas at San
12 Antonio.

13 Q. And what did you do at the University of Texas in San
14 Antonio?

15 A. I was an assistant professor of computer science at
16 UTSA. I taught graduate and undergraduate courses in
17 programming languages and the analysis of computer
18 algorithms. I additionally had faculty committee assignments
19 that are fairly typical for that type of position.

20 Q. And for how long did you teach at UTSA?

21 A. One year.

22 Q. Why did you leave UTSA after one year?

23 A. I obtained a job offer from Texas Instruments in Dallas,
24 Texas. I had turned down a similar offer in Huntsville,
25 Alabama, the previous year, right after I got out of graduate

1 school because of the two-career family. My wife also has
2 two doctorates from Oxford University. So when the job with
3 TI opened up in Dallas, Texas, there were opportunities for
4 my wife, and we went to Dallas.

5 Q. And how long -- what did you do at Texas Instruments?

6 A. Well, initially I was a project manager at TI, and I was
7 responsible for the development of what became a commercial
8 product for Texas Instruments computer group which was then
9 located in Austin. It was a product for programming language
10 compilation, and it had some utility programs that went with
11 it, real-time operating systems for microprocessor-based
12 applications.

13 Q. How long did you work for TI?

14 A. I -- I worked four years for TI. After we did the
15 project -- the software project, I was a research manager and
16 I formed a branch of 25 to 30 folks who looked at a variety
17 of computer systems engineering tasks.

18 Q. Did you eventually leave Texas?

19 A. Yes, I did.

20 Q. And why did you do that, Dr. Ligler?

21 A. My wife had a very fine oppor -- opportunity with the
22 Dupont Company in Wilmington, Delaware, so we went to
23 Delaware.

24 Q. What did you do after you left Texas Instruments?

25 A. I was deputy -- first deputy manager and then deputy

1 general manager and director of engineering for the special
2 systems division at the Burroughs Corporation in Paoli,
3 Pennsylvania. In that capacity, I was responsible for 450
4 research and development and practicing engineers, working on
5 about 40 different projects for the federal, as well as state
6 and local governments.

7 Q. What did you do after Burroughs?

8 A. After the Burroughs Corporation, I became president of
9 the Aydin Controls Division. It was a company that developed
10 computer graphics display generators and high-resolution
11 color monitors, primarily for the industrial control market.

12 We had 300 original equipment manufacture customers
13 around the world.

14 Q. What did you do after Aydin?

15 A. I went to Computer Science's Corporation in Falls
16 Church, Virginia, just -- in a suburb of Washington, D.C.,
17 and was a division and a group vice president at CSC in their
18 Government Products Division. I had responsibility for
19 communications and control products and then was responsible
20 for what today would be a 1 to 2-billion-dollar program on
21 computer networking.

22

23 Q. Dr. Ligler, have you worked with any computer systems
24 that dealt with data security issues?

25 A. Yes, several.

1 When I was at the Burroughs Corporation, several of the
2 projects that my engineers were working on were dealing with
3 the secure communication over computer data networks of
4 classified data. We called these programs black programs
5 because of the nature of the data and the security
6 surrounding the data.

7 Then when I was at Computer Sciences Corporation, I
8 worked with the National Security Agency in Maryland to
9 obtain approvals for a network link encryptor, a device that
10 would encrypt and then subsequently decrypt information that
11 would go over a computer network. The information in this
12 case was sensitive, but not classified.

13 And then when I formed my consulting firm, I
14 worked on -- I have -- since then I have worked on several
15 security-related assignments as well.

16 Q. Now, Dr. Ligler, do you have any significant experience
17 in design and implementation of products that use the
18 technologies underlying DRM?

19 A. Yes, I do. After I left Computer Sciences Corporation,
20 I formed my consultancy, GTL Consultants, sole
21 proprietorship, and I have worked with 41 clients on three
22 continents for a wide variety of assignments, several of
23 which have dealt with the secure distribution of data in
24 geographically diverse locations over computer networks.

25 So with regard to data security and computer -- and

1 distributed computing, network technology, software
2 engineering, hardware engineering, I've had significant
3 assignments in all those areas.

4 Q. And how did those technologies relate to DRM and the
5 technologies at issue in this case?

6 A. Well, they're the underlying technologies for
7 implementing digital rights management.

8 Q. Dr. Ligler, in total, how many years of experience do
9 you have in the design and development of hardware and
10 software for computer and telecommunication systems?

11 A. Well, now that it's 2015, I guess 39 years.

12 Q. Dr. Ligler, could you turn to -- in your binder, DX-APL
13 348?

14 A. I'm sorry. I don't have a binder.

15 Q. My apologies. We will hand one up to you.

16 Dr. Ligler, we've also pulled it up on the screen if you
17 can take a look at the screen on your right.

18 A. Sure.

19 Q. Could you tell us what that is?

20 A. Yes. This is a copy of my resume as of September 2014.

21 Q. Is that still accurate?

22 A. Yes, it is. I've taken some additional pro bono work
23 where I donate my time to advise the Federal Government.

24 That project started -- is starting this month for the
25 National Research Council; but apart from that, I believe

1 this is quite accurate.

2 MS. FUKUDA: Your Honor, Apple offers Dr. George
3 Ligler as an expert in the computer systems engineering and
4 the areas pertinent to this case.

5 THE COURT: Is there objection?

6 MR. CALDWELL: No objection, Your Honor.

7 THE COURT: The Court will recognize Dr. Ligler as
8 an expert in those fields.

9 And with that, we will pause for the evening and
10 come back tomorrow and get further into his testimony.

11 Ladies and Gentlemen of the Jury: I'm going to
12 excuse you for the evening. Please leave your notebooks in
13 the jury room. Don't discuss the case with anyone. Follow
14 my other instructions.

15 We will try to keep to the same timetable tomorrow.
16 If you will be assembled and ready to go a little bit in
17 advance of 8:30, we will try hard to be starting by 8:30. We
18 haven't made it yet, but I'm working with things you don't
19 know about, and we are going to continue to try hard to start
20 at 8:30.

21 Travel safely to your homes, and I will see you in
22 the morning. You're excused at this time.

23 COURT SECURITY OFFICER: All rise for the jury.

24 (Jury out.)

25 THE COURT: All right, Counsel. Is there anything

1 that needs to be raised before we recess for the evening?

2 Anything from the Plaintiff?

3 MR. CALDWELL: Nothing from the Plaintiff, Your
4 Honor.

5 THE COURT: Anything from the Defendants?

6 MR. BATCHELDER: No, sir.

7 THE COURT: As previously, I'll be in chambers by
8 7:30. We will do a better job of getting in here by 8:30 in
9 the morning.

10 We stand in recess until tomorrow morning.

11 (Court adjourned.)

12

13 CERTIFICATION

14 I HEREBY CERTIFY that the foregoing is a true
15 and correct transcript from the stenographic notes of the
16 proceedings in the above-entitled matter to the best of our
17 abilities.

18

19 /s/_____
20 SHEA SLOAN, CSR, RPR
21 Official Court Reporter
22 State of Texas No.: 3081
23 Expiration Date: 12/31/16

February 18, 2015

22

23 /s/_____
24 SHELLY HOLMES, CSR, TCRR
25 Deputy Official Court Reporter
State of Texas No.: 7804
Expiration Date 12/31/16